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TRANSACTIONS OF THE

SECTION ON

HOSPITALS

of the
American Medical Association
at the Sixty-Third Annual
Session, held at Atlantic City,
N. J., June 4 to 7, 1912

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PROCEEDINGS OF THE SESSION

TUESDAY, JUNE 4—AFTERNOON

The Chairman, Dr. W. B. Russ, San Antonio, called the meeting to order at 2 p. m., in the meeting-room of the Hotel Rudolph.

Dr. William H. Welch, Baltimore, read an address.

Dr. H. D. Arnold, Boston, read a paper on "A Clinical View of The Special Diet." Discussed by Drs. Fred A. Washburn, Boston; C. A. Drew, Worcester, Mass.; J. W. Coon, Wales, Wis.; W. A. Young, Toronto, Canada; Theodore Potter, Indianapolis; J. O. Skinner, Washington, D. C.; F. M. Bauer, New York; John Allan Hornsby, Chicago; C. N. Cook, Natick, Mass.; Charles Richard, Washington, D. C.; W. B. Cunningham, New York, and H. D. Arnold, Boston.

Dr. P. E. Truesdale, Fall River, Mass., read a paper on "The Hospital Versus The Home in the Care of Patients—an Evolution." Discussed by Drs. John H. Gifford, Fall River, Mass.; Fred A. Washburn, Boston; George T. Webber, Olney, Ill., and P. E. Truesdale, Fall River, Mass.

The Chairman announced that nominations were in order for delegate from the Section to the House of Delegates. Dr. Fred A. Washburn was nominated and unanimously elected.

WEDNESDAY, JUNE 5—MORNING

Dr. John B. Murphy, Chicago, read a paper on "Hospital Pathology: Asepsis and Cleanliness from the Clinician's Point of View." Discussed by Drs. W. B. Dorsett, St. Louis; R. R. Huggins, Pittsburgh; A. G. Barrett, Baltimore; L. H. Taylor, Wilkes-Barre, Pa.; H. M. Hurd, Baltimore; G. de N. Hough, New Bedford, Mass.; P. E. Truesdale, Fall River, Mass.; Harvey Smith, Harrisburg, Pa.; Edward Jackson, Denver, and A. J. Ochsner, Chicago.

Dr. Henry M. Hurd, Baltimore, read a paper on "The Proper Division of the Medical Services of the Hospital." Discussed by Drs. A. J. Ochsner, Chicago; J. A. Hornsby, Chicago; C. A. Drew, Worcester, Mass., and H. M. Hurd, Baltimore.

Dr. F. A. Washburn, Boston, read a paper on "Problems of Hospital Organization." Discussed by Drs. C. H. Cook, Natick, Mass., and F. A. Washburn, Boston.

Dr. Richard C. Cabot, Boston, read a paper on "Out-Patient Medical Service—The Most Important and Most Neglected Part of Hospital Work." No discussion.

The Secretary offered a resolution on the securing of an appropriation from the Board of Trustees for the purpose of inspecting and standardizing all hospitals by the character of the scientific work being accomplished in them which was unanimously carried and referred to Dr. F. A. Washburn, the delegate of the Section, to be presented to the House of Delegates.

The resolution was discussed by Drs. Henry M. Hurd, Baltimore; F. M. Bauer, New York; E. E. Munger, Spencer, Iowa; G. W. Greene, Chicago; Alice M. Seabrook, Philadelphia (Women's Hospital); F. A. Washburn, Boston, and A. J. Ochsner, Chicago.

Dr. Washburn moved to amend the resolution so as to read "That the Chairman of this Committee be Dr. Hurd." Dr. Hurd declined to serve.

Dr. Washburn made a motion that the resolution as offered by Dr. Hornsby be replaced by the following:

"That a committee of three be appointed, one of whom shall be the secretary of this section, and two others appointed by the chair, to consider the matter of inspection and classification of hospitals and report at the next section meeting, a year from now."

A vote on the first resolution was called for.

The Chairman called for a vote on the substitute resolution, the result being eight in favor and seven against the resolution, and the same was adopted.

Dr. Ochsner moved that the House of Delegates be requested to ask the Board of Trustees to provide for an appropriation of sufficient funds to meet the expenses of this committee. The motion was unanimously carried.

Wednesday, June 5—Afternoon

Dr. H. B. Howard's paper on "The Medical Superintendent: His Advantages, His Duties and His Limitations" was read, in Dr. Howard's absence, by the Secretary. Discussed by Drs. H. M. Hurd, Baltimore; Ellsworth Smith, St. Louis; G. W. Greene, Chicago; J. W. Coon, Wales, Wis., and J. A. Hornsby, Chicago.

Dr. Joseph D. Farrar, Philadelphia, spoke on "The Abuse of the Hospital Free Dispensary," and read the following:

HOSPITAL DISPENSARY COMMITTEE

The committee appointed by the Philadelphia County Medical Society to investigate this matter is of the opinion that the hospital dispensaries are being abused, and we think the adoption of the following card, as recommended by the board of directors of said society and as adopted by the New York State Board of Charities, will serve to eliminate those not entitled to free treatment.

Name ..... Date .....
Dr. ..... Number in family ...
Nationality ..... Address .....
Occupation ..... Man ..... Woman.....
Income ..... Rent ..... This is my
..... application to this dispensary in the year .....
I have been an applicant to no other dispensary in the year .....
(or to the following dispensaries) .....
The foregoing statement is in all respects true.
Signature of applicant .....
Admitted ..... Refused .....

Very truly yours,
C. B. LONGENECKER, Chairman.
JOSEPH D. FARRAR, Secretary.
E. J. G. BEARDSLEY.
E. W. KELSEY.
G. M. ILLMAN.

It was moved and seconded that the Chairman be asked to appoint a committee of three members to memorialize the House of Delegates, presenting all the data at their command, to investigate the matter. Carried.

THURSDAY, JUNE 6—MORNING

Dr. Isaac A. Abt's paper on "Individual Prophylaxis in Children's Hospitals" was read, in Dr. Abt's absence, by the Secretary.

The Secretary then reported that Dr. Washburn had gone to the House of Delegates and presented the resolution passed by this Section to the House of Delegates, which resolution asked for an appropriation to be spent in an investigation for the standardization of hospitals in this country. The Secretary reported that the House of Delegates referred the resolution to the Board of Trustees. That Committee is composed of Dr. H. M. Hurd, Baltimore, Chairman; Dr. Fred A. Washburn, of the Massachusetts General Hospital; and Secretary Hornsby, of the Michael Reese Hospital, Chicago.

The following nominations were made:

Chairman, Dr. H. B. Howard, Boston, and Secretary, Dr. John Allan Hornsby, Chicago. Each was elected by acclamation.

Dr. F. A. Washburn, Boston, was reelected unanimously to the House of Delegates.

Mr. Michael M. Davis, Jr., Boston, read a paper on "The Efficiency of Out-Patient Work." Discussed by Dr. Milne B. Swift, Fall River, Mass.; Miss M. E. McCalmont, Philadelphia, and Dr. J. A. Hornsby, Chicago.

Dr. Samuel C. Plummer, Chicago, read a paper on "The Relations of the Hospitals to Corporations Interested in Patients."

Mr. M. L. Bell, Chicago, read a paper on "The Legal Aspects of the Relations of the Hospital to Corporations Interested in Patients."

These two papers were discussed by Dr. J. O. Skinner, Washington, D. C.; Miss M. E. McCalmont, Philadelphia; Mr. McClain, Philadelphia; Dr. S. C. Plummer, Chicago, and Mr. F. S. Bunn, Youngstown, Ohio.

Dr. Charles Richard, Washington, D. C., read a paper on "Relations of the Civil Hospital to the Military Establishment in Time of Peace; in Time of War." Discussed by Drs. S. C. Plummer, Chicago, and C. Richard, Washington, D. C.

Dr. E. E. Munger, Spencer, Iowa, read a paper on "Hospitals and the Health Problem, with Special Reference to the Necessities of Rural Life." Discussed by Dr. G. W. Greene, Chicago; Miss M. E. McCalmont, Philadelphia; Drs. Hoggenberger, Boston; J. A. Hornsby, Chicago, and E. E. Munger, Spencer, Iowa.

THE HOSPITAL AS A FACTOR OF INTEREST TO THE MEDICAL PROFESSION

W. B. RUSS, M.D.
SAN ANTONIO, TEXAS

The hospital as a factor in civilization began almost back in the dark ages when military commanders, chiefs of clans and monarchs were compelled to maintain some place in which to take care of their sick and hurt soldiers. The principle underlying the hospital in those days was a wholly selfish one and contemplated merely the fighting strength of the army.

At a later day some of the religious orders began to care for the homeless and helpless within their domains. One hundred years ago society as a whole began to consider its obligations to the poor and helpless who were sick, and the first civil hospitals were created. Little by little and step by step these hospitals grew in grace, physicians began to frequent them in their studies of medical science, and it is from this period that the hospital dates as a real factor for the common good of mankind. Many of us can remember a time when the hospitals in this country were places to which might be sent only those who could not be cared for elsewhere, and no one who had a comfortable home and the means of employing physicians and nurses ever voluntarily went to the hospital.

With the improvement of methods employed in the cure of disease, and the better equipment of the hospitals, came a new period, and in desperate cases surgical patients were ordered to hospitals since these furnished better facilities in which to do surgical operations. Then

came the germ theory of disease and antiseptic surgery, and the patient's home was recognized as no longer furnishing the field for a surgical operation or the facilities to perform one. The hospitals in those days reeked with vile odors of carbolized oils and iodoform and iodin and other ill-smelling stuffs which were supposed to have the magic power of destroying the germs of disease.

Then followed a better day than all, the days of aseptic surgery and aseptic medicine, in which cleanliness was regarded as the very acme of godliness. We had a period in which the hospitals were clean and sweet, in which the sweetness of flowers was permitted to pervade the atmosphere of the sick-room and the corridors. It was then that people began to frequent the hospitals voluntarily — they no longer felt that an order to go to a hospital was a sentence of death. This brings us to a period perhaps ten or fifteen years ago. Within that time the practice of medicine and surgery has made vast strides; pathology has come to mean much, and bacteriology even more. We have learned that certain pathologic conditions of the system are made manifest by certain conditions of the blood and the secretions; we have devised means of ascertaining these conditions and of measuring their significance, and by these various means we are now able to diagnose disease more certainly and more accurately than ever before. Moreover, we have learned to treat disease far differently and to use physical apparatus, electrical instruments and devices of various sorts that are now recognized as the equipment of the modern hospital.

A period has come in which all men, women and children who suffer with even the ordinary ills of life — all actually sick persons — must be taken to the hospital if they are to receive that care and those means of cure which the science of medicine is now able to provide; so that the whole problem of our civilization so far as the sick is concerned has shifted, and to-day it is not

the homeless and the helpless alone who are permitted the benefits of the hospital, but all sick mankind.

A few years ago the adequately equipped hospital was a clean house with clean floors, clean walls, a clean bed, indifferently trained nurses and a doctor whose sole means of diagnosis were his ear, his eye and his touch at the bedside of the patient. To-day such a hospital is inconceivable, and the modern hospital must be equipped with a laboratory of pathology to aid the surgeon or physician in his diagnosis, a laboratory of bacteriology, in which the heterovaccines and autovaccines are made and employed, a department of physical therapeutics for various sorts of exercise of the various parts of the body, for hydrotherapeutic and electrotherapeutic treatment, a department of dietetics in which patients may be fed by the doctor's prescription and their food measured in terms of calories and chemical constituents; an operating department, aseptic, with all which that term implies; a milk laboratory for the formulation of food for infant-feeding, and a vast list of machinery such as blood-pressure apparatus, instruments for measuring the hemoglobin, microscopes and instruments for counting the blood-cells, *x*-ray outfits not alone for diagnosis of fractures of the bones but for diagnosis of lesions of the soft tissues and for treatment of certain parasitic diseases and for the treatment of certain neoplasms, including cancer forms, apparatus for introducing normal salines and other fluids into the blood-stream subcutaneously or intravenously, and so on down the list almost *ad infinitum*.

In this modern hospital the division of units must be made so clear and convincing that an infinite variety of diseases may be treated without fear of cross-infections. The communicable diseases of childhood must be cared for so that a child brought in suffering from one disease may not contract another before it leaves the institution. The idiopathic erysipelas of the medical ward must not be allowed to communicate the infection to the surgical

department. In the maternity department there must be such rigid technic and such inviolable rules of conduct that the puerperal woman may be cared for and cured without endangering the health of the other patients in the department. It is impossible always to prevent the occurrence of thrush or ophthalmia neonatorum, but it is no longer forgivable that one case shall be followed by another.

We recognize the epidemic forms of cerebrospinal meningitis and poliomyelitis, but we do not forgive the establishment of these epidemics in the wards of the modern hospital.

From these fundamental principles of hospital administration has grown a profession in which the architect in all his branches must co-labor with the pathologist, the bacteriologist and the specialist in all the branches of medicine and surgery, a profession which we have come to call hospital administration.

Now let us retrace our steps a moment for a brief review of what has been accomplished in this direction. As far back as 1863, Florence Nightingale published a book on the hospital of that day. Her plans down to the minutest detail show the hospital unit almost precisely as it is to-day—the ward flanked by the service-room, the bath, the toilet, the slop-sink room, the convalescents' dining-room, the linen room, the surgical dressing-room, the supply-rooms and the medicine-closets. We have not gone far to improve on this old unit—it is the same to-day as it was then, but the details are vastly different. The hospitals of that day ignored cracked floors, carpeted wards, holes in the walls, pictures hanging on moldings, upholstered furniture, crevices everywhere to form the ideal abiding-place for microorganisms. The structures were of wood, literally tinder-boxes, with a power plant in the basement as an added danger of fire.

To-day our units are the same, but our construction is steel and concrete, the monoliths and polyliths; we have

no carpets and dust-catchers; our furniture is of white enamel, not only to deny an abiding-place to micro-organisms but also in order that the supervisor may see where there is dirt. We have forsaken the old-time heat registers with their dust and soot; we have steam radiators that give nothing into the sick-room; we have screens on our windows to deny admission to the fly and the mosquito and other insects that may carry the organisms of disease. We know that sunlight is one of God's ways of curing disease and that fresh air is one of the greatest physicians in the world, so that we build our modern hospitals with windows facing to the sun, with air-space measured in terms of cubic feet for the sick.

We have serving-rooms for feeding the sick as they did in Florence Nightingale's day, but our method of feeding is vastly different; the pathologist has told us that the diabetic must be fed on certain kinds of food carrying certain chemical constituents, that the nephritic must be fed on very different foods, and that those suffering from certain other disease must have their diet measured in rigid terms, so that to-day we have advanced in this department to a stage at which the physician may measure his chemical skill by means of practical metabolism against the unrhythmical and unhealthy functions of the organs of the body, and so by using the laboratories as they are constituted he may build up a wasting frame, and at the same time withhold those chemical poisons that are responsible for the patient's downfall. We have reached a time when we may see through the microscope and by our various scientific means the very processes of functional activity, looking almost as it were through a glass on the inner workings of the various organs of the human body.

Some of these thoughts must present themselves to us as we meet here to-day to inaugurate the Section on Hospitals of the American Medical Association. We meet for the first time to recognize a new specialization in the science of medicine—that of the hospital adminis-

trator, that of the specialist whose duty it is to present to the modern physician the facilities which he needs for the care of his patient. In the creation of this section, the House of Delegates, our governing body, has given a new impetus to the principle long ago recognized by some of us—that the hospital administrator must be one who is versed in at least the principles of the science of medicine, in order that he may coordinate the activities of the hospital and its varied facilities with the scientific work of the physician in charge of the patient. Many years ago a few medical men were placed in charge of hospitals, but mostly they were men who had failed in the practice of their profession, or were broken down in health and no longer able to bear the hardships of practice; they were usually men unskilled in commercial activities. Our profession is one that notoriously unfits men to deal with other business in the marts of trade—with the buying and selling of supplies, the handling of help and the management of employees, in the critical review and approval or disapproval of architectural plans, the economies of the power plant and the various physical activities incident to the administration of a hospital. Is it any wonder then that these men failed in their task? And they did fail, and in their failure brought reproach not only to their profession, but to the hospital in which their activities were employed. But within the past few years there has grown up among us a new class of men, men reared in the colleges, graduated from the best medical schools, trained in the fundamental principles of their profession, in internship and staff positions in the hospitals and who then, prompted by some special fitness that has been demonstrated in their careers, have selected for themselves the medical specialty of hospital administration, just as other men had selected other specialties. There are not many of these roundly equipped and practically trained medical men to-day, but their number is growing and the demand for their services is great.

If this section of the American Medical Association is to achieve anything—and we are solemnly impressed with the fact that it is to achieve something—then its greatest field of usefulness will be found in that junction between the medical practitioner and his work in the hospital. We are not alone attempting here to help the hospital administrator grow great in his field of usefulness, but as practitioners of medicine we expect him to help us grow great, to learn many things in hospital procedure, the use of apparatus, methods of doing new things, and of doing old things in a new way. We expect him to help us train our interns in order that the younger men in the profession may be better in this community of interest.

So let us join hands, this little body of men who are here, and let us say to each other: Here is a nucleus for a great field, for a great work; we will help each other and bring in others to help us and themselves to the end that the hospitals of this broad land may be better built, better equipped and better administered, and in order that the medical man of to-day and to-morrow may do his work better because of these physical and moral improvements, all to the common end that humanity may profit by this, the small beginning that we meet here to celebrate to-day.

1516 Main Avenue.

THE HOSPITAL IN RELATION TO MEDICAL SCIENCE

WILLIAM H. WELCH, M.D.
BALTIMORE

The formation of a section to be devoted to the consideration of hospital problems is to be welcomed as meeting a real need of the profession. Hospitals have played an important part in the past and are destined to play a much greater one in the future in the advancement of medical science and art and in the promotion of medical education. In recent years they have assumed interesting and significant sociologic functions, and it is possible that it may hereafter be deemed wise to add the subject of medical sociology to the title and functions of this section. Certainly there should be some section in which this important subject may receive proper consideration, and it does not seem desirable to multiply the sections of the Association more than is absolutely necessary.

The various activities of the hospital may be classified as humanitarian, scientific and educational. Although included in the foregoing, it may be well to specify also the sociologic activities. The most widely useful hospitals are those which recognize and give their proper share to each of these functions.

The position held by the superintendents of many of our hospitals is, I believe, peculiar to American hospitals. This position is one of much larger influence and authority and of more varied functions, not only on the administrative but also on the professional side, than any corresponding one in European hospitals. As a rule the superintendent comes into much closer relations with

the trustees or managers of the hospital than do members of the professional staff. His opportunities and power for good, as well as for harm, are very great. For the position of hospital superintendent, as it has developed in this country, at least in the larger general hospitals, it seems to me most desirable that a medical man of good administrative capacity should be chosen. The career has become a highly specialized and in many respects an attractive one. A medical superintendent should be the one most likely to appreciate and further the needs of medical science and education.

The care of the sick and injured is the primary and essential purpose of a hospital. The welfare of the patient should always receive the first consideration. The plea for scientific and educational uses of a hospital could not be justified if it could be shown that such uses interfered with the patient's welfare. As a matter of fact, however, one of the strongest supports for this plea is the demonstration, based on experience and sound argument, that the interests of patients are best served in hospitals which likewise recognize fully the needs of medical education and of scientific research. The best and most famous hospitals are of this character, and such hospitals serve the community more broadly and effectively than institutions which limit their activities merely to the care of patients.

The most urgent problems of medical education to-day relate to the teaching of the clinical subjects. It is the so-called theoretical or laboratory subjects which are now taught most practically, whereas the practical branches are taught most theoretically. In the past, hospitals and medical schools have developed in this country for the most part quite independently of each other, and as a result it has become a matter of great difficulty to bring them together in some such relation as that existing in Germany between university and hospital. The need of such affiliation is now widely recognized and efforts to solve this perplexing problem

have in some instances met encouraging success. The solution does not in general lie in the direction of universities securing hospitals of their own, although they are fortunate if they possess them, but rather in the establishment of the proper relations between the universities and municipal or privately supported hospitals, whereby such hospitals can be made freely available for the training of students and physicians and the cultivation of scientific medicine.

We can scarcely point to-day to the existence in this country of great medical and surgical clinics comparable to those of most German universities, nor shall we have them before there has been considerable reorganization of the professional service in most of the teaching hospitals and until we recognize that the head of such a clinic cannot conduct it properly as a mere incident of a busy outside practice. It is a curious fact that, whereas every other branch of the medical sciences has now assumed the position of a science to be cultivated by those devoting their lives to the subject, clinical medicine, the main trunk from which all these branches have sprung and the most important of all the medical sciences, has not yet assumed this rank of an independent science requiring for its cultivation and teaching the single-hearted devotion of those who pursue it.

The heads of the departments of medicine and surgery in the university should of course be the heads of the corresponding clinics or services in the hospital, and in my judgment these positions should go to those who are willing to give most of their time to the care of patients within the hospital, to teaching and to the supervision or conduct of investigations relating to their science and art. They should be provided with a resident staff besides and superior to the ordinary interns and comparable to assistants in laboratories, who are appointed for longer periods and are in training for academic careers or the higher walks of medicine. Under such a system the hospital and the patients will be

better served, medical education will be improved, and the art and science of medicine will be advanced far more than under the prevailing conditions. It is not enough that we should ask ourselves whether our medical schools and hospitals turn out as good doctors as those of Europe; we should also inquire whether they are contributing their share to the world's progress in the art and science of medicine. The problems of clinical medicine are of an interest and importance surpassing those of any other branch of medical science. For their solution the hospital ward should be the laboratory, but at present the organization of work in the ward bears so little resemblance to that of a scientific laboratory that a comparison between the two is only misleading.

A tendency at the present time to separate scientific research from the work of teaching has certain advantages, but has, I believe, even greater dangers. Scientific investigation in medicine during the last three decades has led to results of such vast importance as regards our power over disease that this makes an appeal to the public and to philanthropists much stronger than does medical education. Hence it is that large funds are available for institutes of research and for research hospitals which have no connection with education. Hospitals are often more eager to contribute to scientific medicine than to participate in the work of medical education, and in a number of instances have been provided with funds and laboratories intended solely for scientific research. While there is room for such independent endowments and institutions, the roots of fruitful scientific work lie in the educational system, and if the latter is neglected, the former will suffer. The traditional home and the most favorable environment for productive research is the university, and hospitals in affiliation with universities offer, I believe, the best opportunities for the promotion of medical science and art. Above all the teacher should also be an investigator.

The provision of laboratory equipment has become a necessity of the modern hospital. Modern methods of diagnosis require in ever-increasing measure trained experts and the necessary rooms and equipment for biologic, physical and chemical diagnostic procedures. Development along these lines has greatly improved the quality, both scientific and practical, of the work of our hospitals, and leads naturally to the desire to combine scientific investigation of the problems of disease with the practical aims of the hospital. This is a line of progress which should be encouraged by our hospitals, and which increases the service of the hospital to the profession and the public.

I think that a special plea is needed at present for the cultivation of pathologic anatomy, which has not, as some seem to suppose, exhausted its possibilities of usefulness in the advancement of scientific medicine. It is not necessary to decry the value of experimental and physiologic methods in order to give to pathologic anatomy its proper place in the study of the problems of disease. Every effort should be made to secure post-mortem examinations of those who die in hospitals, and in my experience such efforts, if properly made, are generally successful. Both hospitals and the public—I might add, even the profession—should be educated to a realization of the importance of such examinations, so that they are understood to be a matter of course in the conduct of the hospital.

Although but little appreciated as yet by the community, medicine is destined to play a leading part in the solution of many of the industrial, economic and social problems of the world, and in these newer activities, to which I referred at the beginning as sociologic, there is a place for the helpful cooperation of our hospitals; but I must leave this aspect of the subject to your consideration with this bare mention.

In conclusion, permit me to express my best wishes for the success of this new section, which opens with a program indicative of much useful work.

A CLINICAL VIEW OF THE SPECIAL DIET

HORACE D. ARNOLD, M.D.
BOSTON

The average hospital to-day is inadequately equipped to feed patients properly according to modern dietetic principles. The chief fault lies with the medical staff rather than with the administrative department of the hospital.

These are sweeping statements, but I believe they are justified. If true, the statements should not be interpreted as indicating neglect of patients, either on the part of the institution or on the part of the members of the staff, but merely as evidence of the fact that scientific dietetics is a subject of recent development with which the profession at large is not yet thoroughly familiar. But these principles are now known, and the time is not far distant when the hospital or the physician who feeds patients in the old way will justly be accused of neglect.

Up to a short time ago the feeding of patients was a matter of empiricism. By experience we found that certain articles of food disagreed with patients suffering from a given disease. Such articles were forbidden in that disease. Likewise we recommended certain articles of food because some patients had done well on them. Thus were developed a set of empirical rules, very general and indefinite in character; the diet was ordered according to the name of the disease, with little consideration for the needs of the individual patient; the rest was left largely to the judgment of the nurse or to the appetite of the patient. We did not bother ourselves with the com-

position of food, nor with its nutritive value. We may have tried to look up the word "protein" in the medical dictionary, and failed to find it. Perhaps we wondered if a calorie was not some article of food used by the French, instead of a convenient unit for measuring the nutritive value of foods.

Many physicians of middle age or older, even of such eminence that they are on hospital staffs, are asking these or similar questions to-day. Worse still, many of them are not sufficiently wide-awake to ask the questions at all. As the older men commonly direct the action of the staff, it is but natural that the staff has not, as a rule, been very active in advocating reform in this direction. There have been, of course, notable exceptions, but I am speaking of the average hospital of the country. It is interesting to observe that in some instances in which improved methods have been adopted the initiative has come from the trustees, chiefly laymen, who were forced into the consideration of possible economics by the increased cost of food-supplies.

While perhaps it is too early to attach definite blame to the medical staff for its indifference, the profession can take little credit to itself for what has been accomplished so far in this direction. As the feeding of patients is properly an important part of the treatment of all patients, and is essentially the whole treatment of a considerable number, it should be the duty of the medical staff to see that the hospital dietary is placed on a satisfactory basis. Because of this obligation it seems to me that the staff, rather than the management of the hospital, is responsible for the present unsatisfactory state of affairs.

Any discussion of a satisfactory diet at the present time must take account of its nutritive value, as expressed in calories, and of its content of the three nutritive constituents or foodstuffs—protein, fats and carbohydrates. For ease in calculation it is better to express the amounts of these foodstuffs in grams. Even the general or

"house" diet—designed for the average patient during recovery from accident or operation or during convalescence from disease—should be estimated and planned in this way.

The limits of this paper will not allow a description of the methods by which these calculations are made, or a discussion of the reasons for the standard here suggested. For an average patient in bed the standard for a "house" diet may be placed at the following daily amounts: protein, 100 gm.; fats, 80 gm.; and carbohydrates, 300 gm., furnishing approximately 2,300 calories. By means of suitable tables on the composition of food, not only can a dietitian plan a suitable diet having this composition, but the diet can be expressed simply in terms of common measures of ordinary articles of food. Hence the amounts needed for a given number of patients can readily be calculated, and such a diet may be easily prepared in the general kitchen of the hospital. Variety in the diet from day to day may be secured by the substitution of different articles of food which have approximately the same nutritive value and composition.

It is customary in hospitals to provide at least one other menu, representing a lighter diet than the "house" diet. This is intended for moderately sick patients and those in the earlier stages of convalescence. It is a slight recognition of the principle that the diet should be adjusted to the individual needs of each patient. In a general hospital, however, it is not practicable to individualize in an ideal way with every patient. Nevertheless, proper treatment demands that such attention should be furnished for a limited number of selected cases, and the hospital must be prepared to do this. It would require but a slight extension of present methods to furnish not only the "house" diet and the "light" diet but diets containing 1,500, 2,000, 2,500 and 3,000 calories. This would allow the physician to prescribe diets more intelligently, and it would not only benefit

the patient but would be more economical for the hospital. To furnish 2,500 calories of food to a patient who should take only 1,500 calories represents a considerable waste, whether the patient manages to eat it all or not. To establish such diets would be a long step in the direction of adjusting the diet to the needs of the patients. These diets could be based on standard amounts or "portions" of different articles of food and could be furnished largely from the general hospital kitchen.

Any further elaboration of diets, including the furnishing of special diets, absolutely demands the establishment of an adequate diet kitchen. By this is not meant the ward kitchen where the food is finally prepared for distribution to patients, but a well-equipped kitchen of suitable capacity where, under the immediate supervision of the dietitian, special articles of food may be prepared for a considerable number of patients. It is evident that such regulation of diets cannot satisfactorily be carried out by a steward or chef, by ordinary cooks, or by the regular nurses acting without supervision. The services of a competent dietitian are essential for success.

The exact relations of the dietitian to the other persons concerned with the purchase, preparation and serving of food will vary with local conditions, the organization of the hospital, and the administrative ability of the dietitian. But, either by actual control or by cordial cooperation, she should have supervision over the whole food problem, and should manage it. To put a dietitian in charge of a small diet kitchen, and to have her, with the aid of one or two nurses, prepare some special dishes, does not meet the problem satisfactorily. That merely makes of her a refined cook, whereas she should be the diet organizer and the diet manager for the hospital. Not only should she have authority in the general kitchen over the proper preparation of food, but her authority should extend to the wards so as to secure the accurate distribution of food to the patients and its proper serving.

I have dwelt on these details at some length because they are essential. The clinical results of special diets

depend almost as much on an efficient machine to carry out orders as on the excellence of the diet orders themselves. The clinical results of special diets may be summed up by saying that in appropriate cases better results are obtained by special diets if properly applied, than by any other mode of treatment. Furthermore, in all cases a properly adjusted diet not only aids toward a more complete recovery but it brings that result about more quickly. This would justify the hospital in inaugurating proper dietary measures, even if this step involved considerable additional expense. But it is safe to say that the initial outlay would later be repaid by the more efficient and economical handling of this large item of expense, by the avoidance of waste, and by the shortening of the stay of patients in the hospital.

The keynote to successful dietetic treatment is the proper regulation of the diet quantitatively as well as qualitatively. We must keep in mind both the composition of the food and its nutritive value. A brief summary of a few diseases in which such methods are of value will show the importance of this work.

Infant feeding needs only to be mentioned. The value of such methods in the case of infants and young children is accepted by all.

In diabetes we have for years endeavored to eliminate from the diet all sugars and starches. We know now that many patients do better if we allow a certain definite amount of carbohydrates; but the amount must be carefully regulated and accurately controlled. We recognize now that it is as important to maintain the nutrition and strength by a sufficient allowance of food as it is to cut down the carbohydrates.

The regulation of the amount of protein taken in the diet is practically as important in nephritis, especially in the chronic cases, as is the regulation of the carbohydrates in diabetes. We are dealing with kidneys in which the power to eliminate the waste products of protein metabolism is impaired. The secret of success is

to reduce the protein to the capacity of the kidneys and yet to maintain the nutrition and strength of the patient. It can be shown that the time-honored exclusive milk diet, so long advocated in the empirical dietetics for even the chronic cases, must either overtax the kidneys in such cases, or leave the patient seriously undernourished.

In a measure the importance of diet regulation is proportioned to the chronicity of the disease. In the acute cases, such as pneumonia, the exact regulation of the diet is of relatively little importance. The diet must be light and consist of food easily digested and assimilated, but owing to the short duration of the disease the nutritive value of the diet is of little importance. Partial starvation for a week is not serious, but when it lasts for three or more weeks, as in the case of typhoid, it becomes a serious matter.

The prevalent routine treatment of typhoid affords an inadequate amount of nourishment. The patient suffers from the disease plus partial starvation. He needs more protein and more calories than normally, but in the routine treatment he gets neither. The weakness and prostration are markedly increased. It has been clearly demonstrated that on a properly adjusted diet the typhoid patient remains better nourished, is stronger, and convalesces more rapidly. Statistics are as yet too meager to warrant us in saying definitely that the mortality is reduced, yet it is becoming more and more probable that this will be demonstrated in due time.

Tuberculosis is the type of the chronic wasting diseases. Diet shares first honors with climate and fresh air in the treatment. It was long ago recognized that abundant nutrition was essential. Then came the period of superalimentation—of stuffing the patient with milk and eggs. It is now becoming more generally recognized that this is distinctly disadvantageous if carried too far. Careful studies have shown that patients do as well, and sometimes better, on less stuffing. Many do as well on diets which contain only a moderate amount of milk and

few eggs. Thus the diet may be made much less costly but equally efficient.

It is only necessary to allude to the salt-free diet, the purin-free diet, the Lenhartz diet and the Schmidt diet to call to your mind the usefulness of special diets in the investigation or treatment of disease in appropriate cases.

In conclusion, the trend of progress is toward physiologic therapeutics. The importance of the regulation of the diet is being recognized more clearly every day. It is now possible to apply our scientific knowledge of dietetics in a practical way. The results justify the measures, and any hospital that pretends to keep abreast of progress must establish its dietary arrangements on an up-to-date basis soon if it has not already done so. Such measures will not only be of benefit to the patients but will prove economical to the hospital.

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ABSTRACT OF DISCUSSION

DR. FRED A. WASHBURN, Boston: It occurs to me that the scheme which we have just worked out in the Massachusetts Hospital, and which is described in a paper that I shall read to-morrow, will be very helpful in just the way that Dr. Arnold has described. The surgical service is divided into two parts, each of which has a chief. These two chiefs of service and the administrator form the surgical executive committee. The medical department is also divided and has two chiefs of service and they with the administrator form the medical executive committee. These two committees combined make the general executive committee. This brings the staff and the hospital administration together to discuss diet and other questions that may arise. Such a scheme as Dr. Arnold outlines is a most excellent one, but it requires a well-trained dietitian. It means not only one dietitian in a general hospital, but an assistant dietitian. We have a dietitian who has charge of the general kitchen and of the diet kitchen. She supervises all serving of diet in the wards, but she cannot do it all. She has student dietitians to assist her, women who have volunteered their services after finishing their studies; but it needs a permanent assistant or assistants to carry the scheme all out thoroughly.

DR. C. A. DREW, Worcester, Mass.: I wish Dr. Washburn would tell us about the ways and means of securing the right kind of dietitians. Where can we obtain qualified women to do this work and what must we pay for their services?

DR. F. A. WASHBURN, Boston: There are several institutions which educate women in this line of work. Pratt Institute, Brooklyn, N. Y., Drexel Institute, Philadelphia, Cornell University, and Simmons College in Boston. We pay our dietitian at McLean Hospital $1,200 a year, and the one at the General Hospital gets about $1,000, but she has been with us but a short time.

DR. J. W. COON, Wales, Wis.: I was pleased with the statement of Dr. Arnold that it is becoming less and less a custom, in the treatment of tuberculosis, to insist on the forced feeding of large quantities of milk and eggs, which was formerly so prevalent, but which has been found almost universally to produce marked disorders of digestion, especially when the forced feeding was combined with enforced rest. We have found it to be far more satisfactory to feed our patients a moderate quantity of a well-balanced ration, than a forced diet consisting largely of milk and eggs. I trust the time is not far distant when in our institution, the State Tuberculosis Sanatorium, we may have the feeding of our patients in charge of a trained dietitian.

DR. W. A. YOUNG, Toronto, Canada: What do you recommend in the way of diet in typhoid fever?

DR. THEODORE POTTER, Indianapolis: Anyone who has practiced medicine on the staff of a general hospital for a good many years can appreciate the importance and difficulties of diet in the hospital. The feature of expense is constantly before us. A special diet is usually more expensive than special forms of medical treatment, or special forms of drugging. It is one thing to say that this patient shall have this or that drug, and quite a different thing to say that this patient shall have some particularly prepared diet instead of so many quarts of milk each day in typhoid fever.

I think that the whole matter of special diet would need a great deal of simplification in order to make it possible in the ordinary hospital. The special forms of food will have to be classified and reduced to their simplest forms, for without a classification of that kind it would be difficult to carry out a diet scheme in the municipal hospitals, where the question of extra expense to the hospitals has to be considered, lest criticism should come on them.

DR. C. A. DREW, Worcester, Mass.: The hospital with which I am associated has as matron a competent woman who has been in that position with the hospital for years. The graduate dietitian is a woman 25 years of age, and while she is a graduate of a good school of domestic science, she is much younger and less experienced in every way than the matron who was in charge of the general kitchen. We would like to have a woman capable of taking charge of the whole diet question, but we cannot turn it over to a young woman, who

is perhaps more concerned in dressing prettily and having a good time than she is in the science of her profession, and give her charge over a competent woman who has been in the hospital service for a long time, and who is very competent practically, although not a graduate of any school of dietitics. As it is, the dietitian simply presides over the small diet kitchen in which we provide special diet for those who are very sick.

DR. F. M. BAUER, New York: I think I can say that the dietitian does not seek to supplant the competent matron or the competent person in charge of the dining-room, but that she is important in her own way (even if she be young) in unifying the problem of dietitics in many, many hospitals in one large city, or, if a student dietitian be kept in every hospital of a big department, one general dietitian can have supervision in all these hospitals.

DR. J. O. SKINNER, Washington, D. C.: I would like to ask Dr. Washburn and Dr. Arnold what has been their experience so far in this modern method of regulated diets in the hospital, and whether the staffs have assumed the responsibility of regulating these diets, or whether they have delegated to the administrative branch of the hospital, represented by the superintendent and, under him, by the chief dietitian, the responsibility in this matter? Of course, a diet, constituting as it does one of the most important factors in the treatment of cases, sometimes is looked after by the visiting staff, but I do not think it is usually done.

DR. JOHN ALLAN HORNSBY, Chicago: Our dietitian is a woman we have ourselves trained out of one of the domestic science schools, and we have succeeded so far that we now think we have a real dietitian. Her training was mostly accomplished by the members of the medical staff. They go to her and she goes to them; she is seen daily on the wards, more especially with the younger men who have time to do scientific work, and she makes rough abstracts of what they tell her and they talk to her just as they do among themselves. She is learning a good deal about the feeding of the sick. She has nothing to do with the general feeding of the hospital force. She has a diet kitchen of her own; she orders her own stuff from the steward, gets her supplies through the regular stores, and handles them from that time on. The orders go direct to her, on a form. Dr. Wiley said it was excellent when he saw it. In the first place, the diet sheet is the size of the regular record sheet of the hospital. [This consists of a record for each patient, giving, for each article of food, the way it is served, the quantity served, the quantity consumed, and the proteid, carbohydrate, fats, salts, fluids and calories contained therein.]

There are spaces for breakfast, dinner and supper and a space at the bottom for miscellaneous remarks and computations.

This sheet gives the physician, in the course of a few days, if he is watching his patient, an opportunity to see what is accomplished. The patient runs along several days on a diet, and at the end perhaps he has lost some flesh, but also some sugar, albumin and so on. The physician may have to change the diet in order to bring up the patient's weight. I do not go into that, but the doctor does, and we keep him informed of what the patient is getting in chemical constituents of food and calories. In the diet kitchen we have seven undergraduates or pupil nurses. We have two women to do the heavy work and cleaning. These nurses have the work distributed among them, and each one takes a certain class of diets. The nurses are extremely interested in their work. They are asking questions from up-stairs all the time and the net results, I believe, are that we have the beginning of a real dietary. In the first place we began with two of the men doing this work, and then other men began to do it, and now we have out of a staff of forty men, I think I should say, a dozen who know diet and practice it intelligently, which they did not do two or three years ago.

DR. CHARLES RICHARD, Washington, D. C.: In the hospital of which I have charge, we have a dietitian in the kitchen, and while she is probably not educated in the chemistry of food, she has had practical experience, primarily as a trained nurse, and has an aptitude for that sort of work. Her diet slips are sent to her specifying the articles of diet appropriate for the patient. She selects and prepares the diets accordingly. She has been employed for only a few months. Prior to her assignment to that duty, physicians complained that they were not getting the kind of food they desired. The dietitian really selects the kind of food while the physician prescribes it. The difference in conditions now compared with what they were before her advent are very marked. The complaints have practically ceased. I think there is a great deal to be said about the preparation of food; that is, the preparation of food in such a manner as to make it palatable. It is very easy for the physician to prescribe a dietary, but it takes a dietitian to prepare the food properly. I do not think that that factor has been brought out at all, but we all know that it is a very important factor in the diet of the sick.

DR. H. D. ARNOLD, Boston: In reply to the question about the diet in typhoid fever, some years ago I investigated this matter at the Boston City Hospital, and found that the ordinary diet of a typhoid patient consisted of milk, broths and gruels, furnishing only about 1,200 calories in a day. This is an entirely inadequate amount of nutrition. With the same amount of milk, by the addition of more fats in the form of cream and butter, and the addition of more carbohydrates in the form of cereals and sugar of milk, it is possible to raise the nutritive value of the diet to 2,500, 3,000 or even 4,000

calories. A few eggs may also be added, and later soft solids may be used. Experience has shown that patients thus treated lose less flesh and make a much more rapid recovery.

One reason why the dietary measures I have advocated have not been more generally adopted is that up to a short time ago the subject of scientific dietetics was so complicated that it could not be satisfactorily applied in practice. In recent years, however, the knowledge and the methods have been so simplified that they can be readily applied both to private patients and in the hospital wards. The amount of detail in a hospital is so great, however, that the services of a competent dietitian are essential.

Something has been said of the difficulty of getting satisfactory dietitians. This is certainly true at the present time. There are, however, many women now engaged in this work who are giving very satisfactory service, and others are being trained. I think that in the near future there will be an adequate supply of well-trained dietitians.

THE HOSPITAL VERSUS THE HOME IN THE CARE OF THE SICK; AN EVOLUTION

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That the home can no longer compete with the hospital in the care of the sick is evident from the increasing demand throughout the country for hospitals of every type. In 1900 there were approximately 5,000 public and private hospitals in the United States. In 1910 the number of these institutions had increased to about 7,000. Therefore, while the fear of entering the hospital for any serious purpose is still real, these figures show that the prejudice against hospitals is diminishing rapidly. It may be interesting to compare the status of the hospital and the home in the pre-antiseptic period and to-day.

In a monograph John Aiken, a London surgeon of the early part of the nineteenth century, expressed his thoughts on hospitals as follows:

"Every surgeon attending a large and crowded hospital knows the very great difficulty of curing a compound fracture in them. This is so universally acknowledged that the most humane and judicious of them have been obliged to comply with that dreadful rule of practice, immediate amputation in every compound fracture. In hospitals these sufferers seem to be given up to inevitable destruction. Preserve the limb, they die of the inflammation and gangrene; take it off, they are wafted by the suppuration and a putrid hectic. It is certain that the number sacrificed after surgical operations to hospital pestilence is an evil of important magnitude. This is out of all proportion so much greater in the crowded London hospitals than in private practice and country infirmaries."

Again he writes: "It is certainly from bad success in hospital practice that Mr. Sharp and others have given a dreadful idea of so simple an operation as that for hydrocele. In private practice and in country infirmaries I have frequently seen it performed without a single dangerous symptom." Imagine the despair of the author in this concluding paragraph: "When one walks through the long wards of a crowded hospital and surveys the languid countenances of the patients, when he feels the peculiarly noisome effluvia so unfriendly to every vigorous principle of life and compares their transient effect on him with that to be expected by those who are constantly breathing them and imbibing them at every pore, he will be apt to look on a hospital as a dismal prison where the sick are shut up from the rest of mankind to perish by mutual contagion."

Sir James Simpson showed in his paper on "Hospitalism" the following statistics of mortality from amputation: St. Bartholomew's, 366 deaths per 1,000; Guy's, 382 deaths per 1,000; nine other London hospitals had a mortality of 411 per 1,000. On the other hand, in amputations in country practice the death-rate was only 108 per 1,000.

Dr. Lefort reported the mortality in a collected series of more than 800,000 lying-in cases. He showed a death-rate of thirty-five per 1,000 in lying-in hospitals, and 4.75 per 1,000 at home. In homes including the poorest and most wretched only five per 1,000 died. In all instances the mortality was higher whenever the number of patients was greater. During the early part of the last century the appalling mortality at the Hotel Dieu of Paris was due as much to the actual overcrowding as to the enormous aggregation of patients. There the extraordinary spectacle was to be seen of two or three surgical patients, or sometimes even four parturient women, lying in one bed. A large proportion of beds were purposely made for four patients, and six were frequently crowded in.

Although these hospitals were intended as a blessing and a benefit to the poor, they were as gigantic evils, when compared with the home, for the care of patients.

Is it surprising that the tradition of such conditions should have prejudicial influences for generations—that the fear of the hospital should become almost a family superstition?

Until the discoveries of Lister and Pasteur, hospital fever was not understood. A flood of light was then directed on the fundamental causes of the greatest of hospital dilemmas, and the application of germicidal principles, including sanitation, hygiene and antiseptics, eradicated the scourge of hospital contagion. Thereupon began the development of the modern hospital which, during the last half century, has gained such favorable and universal recognition as an institution of great economic value in every community. It now serves to safeguard the household not only from loss of life and spread of disease, but from the financial stress involved in the proper care of the sick.

Nothing better illustrates the great economic importance of the hospital than the occurence of typhoid in the home. Without the hospital it may be estimated that an attack of typhoid of ordinary severity would cost the working man not less than $200. Added to this are the difficulties encountered in efficient nursing and the exercise of necessary precautions to limit the disease to a single member of the family, especially if the home is crowded or insanitary. Likewise with many other diseases such as the acute exanthems, tuberculosis, smallpox, meningitis, erysipelas and pneumonia; most of these are communicable, all are preventable, and the early removal of the infected person from the home to the hospital is essential to protect the community.

The black death, which visited London in the fourteenth century, is now merely of historic interest; yet it reminds us of a period when there were no hospitals, no buildings in which the plague-stricken could be separated from the healthy, no scientific physicians, no trained nurses; in short, no effective means whatever for combating a scourge which terrified a people for six

years, and according to the chronicler Heckler, paralyzed morals, religion and education, and resulted in a collapse of civilization which continued to be felt for generations.

A review of such epidemics of black death and cholera emphasizes, if nothing more, the great insurance value of hospitals. New conditions and new habits are capable of producing new diseases, and the great influx of a foreign element, especially in our large manufacturing centers, should stimulate every effort toward adequate equipment in hospital protection.

The environment of the home is rarely conducive to the mental quietude of the sick. There is an intimate association between the home and a man's business affairs, and for a woman the home is her place of business.

Surrounded by affectionate, sympathetic and indulgent members of his family, the sufferer often finds rest only when thoroughly fatigued or drugged. The old idea that a patient should make a brave fight from the start against his affliction is too often encouraged in the home by the physician and the family. The layman's attitude of a mental resistance to his disease is to him a most potent factor in favor of recovery. Is the reverse not usually true? Transfer a patient to the hospital, or place him under the care of a trained nurse, almost to the exclusion of his family, and what happens? Nearly always an improvement. He passes from a state of mental activity to one of repose.

The losses involved on the side of the individual against the disease from worry, anxiety, fear and personal responsibilities at home are replaced by a more peaceful and effective utility of the normal functions of resistance.

The hospital of the present is, in a broad sense, a clearing-house for the sick. Through its facilities in every department for the careful study of all diseases it presents the minimum liability to oversight in diagnosis. Men of high rank in the various specialties serve its applicants, and it should not cause the general prac-

titioner too much surprise or indignation if his patient of means dons his poorest garb and mingles with the poor to share these benefits. In other words, the patient of moderate circumstances, or better, often finds that he cannot obtain at home what his neighbor, because he is poor, obtains at the hospital without cost. For this reason the Massachusetts General Hospital has attracted patients from all over the New England states, in 1911 admitting 75 per cent. of its applicants from districts outside of Boston; and it will continue to do so until the standards of this hospital are approached in the smaller cities. If such hospitals excel and cure the sick, their capacity will be taxed and their charity abused; yet the responsibility for this abuse, as a rule, may be safely assigned to the sources from which the criticism comes.

Patients who have good homes prefer to get well in them and often receive a recommendation to the hospital with mixed feelings, unless the necessity and advantages are made clearly obvious. Not long ago I was called in consultation to see a man of 50 years who was suffering with acute abdominal symptoms. He had a good home, had never experienced a severe illness, and about the only thought he entertained as to hospitals was that more people die than recover in them. It required a good deal of persuasion to obtain his consent to be taken to the hospital, yet an acute perforated ulcer of the duodenum was found, and I am quite sure that in any other than the most favorable environment for me the lesion might have escaped unrecognized.

Laboratory methods of investigation are now found to be indispensable for purposes of refinement in diagnosis and the consequent application of intelligent treatment. The progress in chemistry, bacteriology and pathology in a single generation has made a wonderful expansion of the means of probing the mysteries of disease. The microscope, Roentgen rays, cystoscope, proctoscope and other instruments of precision are essential for collective

data suitable for scientific methods of reasoning. All these are part of the equipment of a modern hospital and are readily accessible to the patient. Here it is customary to make investigations more thoroughly than would appear always to be necessary because the means are at hand, and it is not unusual to find that by such methods only can favorable results be achieved.

The contrary is the rule for the patient in the home. No more investigation is resorted to than is absolutely necessary, owing not alone to the time, labor and expense involved, but to the patient's not infrequent and erroneous impression that the best physician is the one who offers a diagnosis promptly and with the least commotion. It is treatment that is uppermost in the mind of the patient. Therein lies an essential difference between the hospital and the home. In the former, hours and often days are spent in determining a diagnosis, and the treatment is brief. In the latter the reverse is the more common method of practice.

Rooms for special treatment and the operating-room bear an important interrelation in the management of many cases. Preparation is the sine qua non of recovery and success after many forms of surgical intervention. This is amply demonstrated by modern methods. Operations on the genito-urinary tract, especially the prostate and bladder, are done only after local and general treatment prepare the patient for a minimum liability to infection. Thyroidectomies, stomach resections, gnyecologic and other operations now find their immediate and end-results better after the adoption of preliminary treatment.

The home will answer as a place for the preparation of simple cases and those which require only internal medication. Others in which preparation requires careful records, special instruments and skilled assistance should be in the hospital in proximity to these special departments. Portable apparatus can be applied in the home, but the efforts are too often disappointing. The

use of the cystoscope, for example, is reliable only when employed in a room specially fitted for this purpose. Not only the equipment but the assistants should be permanent. Strange environment, odd equipment and raw assistants increase the labor and wreck results. This rule may be applied to the workers in the laboratory, in rooms for special treatment, and in the operating-room alike.

The operating-room and these special laboratories have enjoyed a combined function of recognizing many malignant diseases in their early and curable stages, whereupon the superstitious fear of the knife has by the achievement of surgery itself been displaced, and the increasing number of surgical patients in all hospitals measures the relative importance of the hospital and the home in the minds of the sick.

In addition to government, religious and community hospitals, there is a growing demand for private hospitals. Nearly all general hospitals have found it necessary to add private pavilions to their plants. This is another fair index of the change in the attitude of the public in favor of hospitals. The individual of means now finds his home entirely inadequate to meet the demands of modern medical science, and for the needs of his own family his home does not compare with the hospitals which he helps to maintain for the poor.

In many hospitals the private ward system has worked out satisfactorily, but there is a reason well founded on the part of private patients that the service in hospitals mainly devoted to the care of the sick poor does not meet the requirements of all classes. The details of refinement in furniture, dishes, linen and other supplies are not usually considered with a view to impressing a patient favorably. At a recent meeting of the American Hospital Association in New York City I heard an executive of one of our largest and best hospitals state that in refurnishing his private wards he felt obliged to instal more expensive furniture because another hospital had

it. Why not? Would not many of his patients have it in their homes? Would they not select a hotel that had the best in furniture and linen? The same considerations would affect their choice of a hospital. It remains a truth that the per capita cost is of greater moment to many superintendents than an answer to an appeal from the patient for an attractive and cheerful environment.

While private wards in general hospitals often reduce the operating expenses, they add much to the burden of executives, and in some large hospitals such as the Massachusetts General and the Boston City hospitals no increase has been made in the number of private wards for many years. Smaller religious and private hospitals have been introduced to meet the demand. The former usually fulfil the average hospital requirements; the latter are made to pay dividends. While there are some model private hospitals, investigations show that the vast majority are modified apartment houses possessing the usual disadvantages of the home with few of the advantages of a modern hospital. They are operated for a hotel profit, and while my experience in conducting a private hospital covers a period of only six years, I have never succeeded in having an annual deficit below $3,000 on the hotel side.

I believe that a physician who conducts a private hospital should not be too much of a business man; like the physician in general practice, he should be prepared to make whatever sacrifices are necessary for the welfare of his patients, and his records, his system of accounting, his building, its equipment and its entire modus operandi should be open to inspection. An open door in this respect will render a service to the hospital if it deserves it, as well as to its patients. We should welcome a policy such as the licensing of all hospitals, for then, and then only, will public and private hospitals reach a standard which will make them in truth safer than the home for the care of the sick.

So great has been the demand in recent years for hospital accommodations that many hospitals have risen and flourished which in some respects have not compared favorably with the home as a place of safety. Choice of location, type of building and extent of equipment should be considered with the utmost care. Gift lots, in built-up and noisy sections of a city should have a ban placed on them for the location of hospitals. The design of building, the interior appointments and equipment should be supervised by physicians who by education and experience are familiar with problems of the sick.

For years an open countryside for the hospital has been advocated by physicians. St. Mary's Hospital at Rochester, Minn., is one of the first examples of the modern surgical hospital built in the open country. Its founder, Dr. William W. Mayo, by virtue of his indomitable courage, his ability as a surgeon of his period, and his keen prophetic sense molded an institution and an organization the buds of which have blossomed throughout the land. While not the only one, he stands out as a conspicuous figure among the early surgeons who by their great achievements have made it possible for us to-day to build hospitals in the country with most excellent results.

The last decade has marked a stage of transition in hospital conditions, and my own experience may be cited as an example of what has occurred in most cities. At Fall River, Mass., a city of 120,000 people, there was in 1905 no hospital which provided safe and sanitary accommodations for private patients. My hospital opened in that year with ten private rooms. After five years the increased demand justified me in erecting a modern hospital with thirty rooms for patients. This endeavor has not been a success financially, yet the results from a clinical standpoint have been sufficiently gratifying to offset the money loss. The continued drill of assistants in the same capacity for months or years has served two all-important purposes: It has created an *esprit de corps,*

and it has operated to minimize the mortality and morbidity following major surgical procedures, thus creating in the public mind an attiude of respect and confidence free from apprehension.

While a discussion of this subject, "The Hospital versus the Home in the Care of the Sick," will from nearly every point of view favor the hospital, it must be acknowledged that a good home is safer than a hospital which is not modern in construction and equipment. The support of my contention in favor of the hospital should imply a hospital equipped with all that pertains to the general welfare of a patient.

Those of you who are administrators realize that our hospitals, both public and private, even those of recent construction, are not ideal. There is much to be learned in architecture, and many problems to be solved in management. New light and progress in hospital affairs will inevitably follow the proceedings of this Section. As a component part of this great American Medical Association it presents magnificent opportunities; and its endeavors will succeed in great measure, for its field of usefulness is large, its transactions based on experience and wisdom, and its support united, fearless and effective.

ABSTRACT OF DISCUSSION

DR. JOHN H. GIFFORD, Fall River, Mass.: He would not need to be a prophet who should declare that the limit of hospital efficiency has not yet been reached. That community is fortunate indeed which has seen lifted up new ideals of hospital efficiency and, what is better, new standards to which others must in time be expected to attain. Is there any test and measure of the work of a successful hospital except that to be drawn from the statistical report for the year? Are we satisfied with knowing simply the number of the living and of the dead? Is this work a contest merely of mortality percentages? Has not the sick person the same constitutional right as the able-bodied citizen to the pursuit of happiness as well as of life? What may then contribute to this high reputation which is a measure of the satisfaction and attractiveness as well as of the living output of the hospital? If I could put together in a few words those elements which the artist calls "atmosphere," I should picture an atmosphere of

optimism, of confidence, of assurance, of cheerfulness, of freedom from fear. One of the first of the conditions of a feeling of hopefulness is early submission to treatment, appreciating that ill results are oftenest and almost always due to delay.

Location and surroundings and furnishings have been referred to as of great weight. Fine architectural features, beautiful and ample grounds, magnificent outlook—if there be anything beautiful, if there be anything lovely and of good repute and peace-producing, let it by all means be made a part of the structure and environment of the up-to-date hospital. Let no high walls arise to raise a doubt as to whether the enclosure may be an almshouse, an asylum or a prison. Stone walls do not a prison make; nor do fire-proof walls and aseptic operating-room a hospital. These are a part only of the very raw materials. The living soul who above all others shall make of these stones a hospital home, the presiding genius who shall de-institutionalize this institution and become its indwelling spirit and the embodiment of its ideals and purposes, such a one having been sought far and wide and having once been found, let her not lightly depart. Call her superintendent, matron, mother, it matters not. She shall be no combination of old-maid school-marm and militant suffragette exacting obedience and compelling attention by storm. She is greatest and first because she serves most and with least noise and bluster. Her spirit becomes contagious and dominant among those who, fully equipped like herself, serve not so much under her as with her. Under her inspiration all reminders of unpleasant things, past, present or to come, are excluded, and there are substituted all possible pleasant appeals to mind and sense and esthetic sense by way of attentive service, by way of flowers, of music, of pictures, of literature, of conversation, of restful silence, of congenial companionship, and of personal sympathy.

The coming guest is welcomed and the going is speeded on his way. He is never numbered or lettered. He retains a name and a personality. He never becomes a mere case. Even that *bête noire* of many a hospital patient, the anesthetization, comes normally, smoothly, simply along, a perfectly peaceable performance.

Finally, this model hospital which is seeking chiefly to give supreme satisfaction and not primarily for pecuniary reward has at least one competent individual who shall be responsible for the study of the mental state of each patient, with a definite purpose of abolishing fear and worry, of strengthening confidence and of maintaining mental and nervous tone. This is one of the greatest shock-absorbers ever discovered. This should be the duty not of one but of everyone. These few points not only add a great deal to the patient's happiness, but also add something to the speed of his recovery.

DR. F. A. WASHBURN, Boston: We have a Social Service Department in Boston, which was organized by Dr. Cabot. In this same line of work in the hospital, we have had for many years a committee of visiting ladies—women of influence and importance in the community, who voluntarily give a certain amount of their time each month to the patients in the hospital. They give us the benefit of the outside view, the benefit of coming in contact with people of refinement; they lift the standard of the nurses going about the wards as they do, and to everybody they humanize things. We have a woman who is a graduate nurse, full of human sympathy, who is the agent of the visiting ladies, and she also keeps in touch with the office. It is her business to go about among the patients, to make out visiting lists, and to discover such patients as do not have visitors of their own. She keeps a card catalogue, and when one of my assistants wishes to arrange to transfer a patient to another institution she knows just which is the best place for that particular patient. She does little errands for the patients, or sees that they are done by some of the visiting ladies. She reads to the patients herself, or has some of the visiting ladies read to them, and does a thousand and one other things which make a difference in the lives of the patient.

A common cause of complaint formerly was the discharging of patients without thought as to ways and means to their getting home. Now, no patient leaves the hospital unless he can get home without detriment; that is, we see that he is properly accompanied and that he has a ticket. Care in these little things makes all the difference in the world as to the reputation of your hospital in the community. It cannot be limited to the mere treatment of the sick. Dr. Truesdale mentioned the multiplication of small hospitals. I am afraid I do not think that this multiplication of small hospitals is usually a great advantage to a community. I think we are having hospitals built that should not be built.

I do not know the best solution of the problem. Perhaps, in a community near a large hospital, first-aid stations acting as feeders might be established. There is no doubt that in many small hospitals much poor surgery is done and the community is deceived as to the character of the work.

DR. GEORGE T. WEBER, Olney, Ill.: I come from an agricultural community which is not thickly settled. Our nearest large city is St. Louis, which is 150 miles away. When acute surgical conditions arise, which require prompt action in order to save lives, we need the small hospitals. I live in a town of less than 6,000 people, and fourteen years ago I established a small hospital with fifteen beds. I had many difficulties to contend with in establishing this hospital, and getting it on a solid footing. It was not a financial success—that is, the hotel part of it—and the hospital is not a paying

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THE PROPER DIVISION OF THE SERVICES OF THE HOSPITAL

HENRY M. HURD, M.D.
BALTIMORE

The old-fashioned hospital, especially the hospital which did no teaching, but simply cared for patients as they happened to be brought in, was a comparatively simple affair having medical and surgical services only. In rare instances an obstetric service was added, but as a rule the services were the two mentioned.

SPECIAL HOSPITALS

The advent of specialties resulted in considerable complication, and the claims of the different specialties have ever since been more or less urgent, depending largely on the personal equation of the specialist. If he proved to be a man of genius with a talent for organization, and filled a large place in the public eye, he generally found much difficulty in securing adequate recognition for the claims of his specialty. For this reason the original specialists deemed it necessary to establish special hospitals. Thus, for example, the eye and ear hospitals were originally established by surgeons who devoted themselves to diseases of the eye and ear. Dr. Nathan Smith, although a general surgeon, specialized largely in diseases of the eye. Dr. J. Marion Sims found it absolutely essential to organize a special hospital for gynecology because he could not get proper facilities in connection with the general hospitals in New York. Many special hospitals were similarly established in accordance with a similar condition of things which confronted rising men engaged in special work.

SERVICE IN GENERAL HOSPITALS

Within the past few years, however, there has been a notable change in the division of service in many large hospitals. In some hospitals in place of a divided service under the charge of surgeons and physicians with periods of service ranging from three to six months each year, it has been found desirable to place the medical service under a physician-in-chief, and the surgical service under a surgeon-in-chief. At the Johns Hopkins Hospital this arrangement has been carried to the extent of supplying in addition to the physician-in-chief and surgeon-in-chief a gynecologist-in-chief, an obstetrician-in-chief, a pediatrician-in-chief and a psychiatrist-in-chief. Such newer organization of the hospital has brought with it a number of complicating circumstances. It is evident that the specialist is with us to remain permanently, and the question has arisen as to how his special knowledge and skill can be utilized for the benefit of the hospital without at the same time interfering with the supervision which should be exercised by the head of the department.

DEVELOPMENT OF SPECIALISTS

It is generally agreed that specialties should develop in a natural manner out of the general subject; that is to say, to give an example in surgery, every specialist should first be a good general surgeon, and his special work should grow out of the fact that he has developed an uncommon aptitude for a special kind of surgical work combined with a superior technic which he has acquired by long and faithful practice.

I am sure that this must be recognized as the only correct view to take of the relations of the special surgeon and general surgeon; the special surgeon must develop from the general surgeon. If it is in any manner conceded that the specialist in surgery can arise without being thoroughly grounded in general surgery, or that the special surgeon can be otherwise than a general surgeon specializing in a particular direction because of his

knowledge, then we may as well abandon our present conception of medical education.

All who are interested in medical education believe that without an adequate foundation of general medical knowledge and practice a specialty cannot be properly practiced or successfully pursued. In a similar manner it can easily be shown that a gynecologist should have had previously the training and practice of an obstetrician because gynecologic diseases are often dependent on obstetric accidents. Every surgeon also should be carefully trained in medicine in order that he may be able to practice general surgery and do justice to his patients in an effective way. Specialties, in other words, while necessary and most useful, cannot be considered as branches detached from medicine, surgery or gynecology, but must be grafted on a general knowledge of the healing art.

DIVISION OF SERVICE

We now approach the question: What then, should be the proper division of medical service in hospital practice? I may state, in parenthesis, that the views expressed in this paper are the result of personal observation and not in any way the expression of the views of any one else. For many years I have been familiar with hospital service and hence what I say must be regarded as dictated largely by my own experience.

I would recommend the division of hospitals into general wards and special wards or departments. The general wards should receive medical and surgical diseases. The special wards or departments should be as follows:

1. Eye and ear, nose and throat, and skin wards.
2. Children's wards, including infectious diseases.
3. Gynecologic wards, including female genito-urinary surgery.
4. Obstetric wards, including infants and nurslings.
5. Psychiatric wards.
6. Genito-urinary and venereal wards.

A word of explanation may be given as to the character of patients in the above special wards or departments. The diseases treated in a children's hospital should comprise the ordinary medical and surgical diseases of children and infectious diseases like measles, chicken-pox, whooping-cough, diphtheria and scarlatina. Small-pox should go to a special hospital.

Obstetrics should include the care of nurslings in addition to that of lying-in cases. Many excellent educators think that obstetrics and gynecology ought to be united under a common head, and several institutions have arranged for such a union; but I see many difficulties in the practical management of such a double department. While there are times when the gynecologic surgeon must be called on to repair accidents due to severe or untoward labors, it does not appear that the percentage of disorders of such origin is large. Many gynecologic diseases are due to infections of a venereal character. Carcinoma, fibroma, polypoid growths, uterine displacements and genito-urinary diseases have nothing in common with the lying-in state, and do not of necessity belong to it. All of these disorders, in fact, could be classed with other surgical disorders with as much propriety as with obstetrics. Gynecologic surgery is a branch of general surgery and ought not to constitute a separate division of the hospital.

In medicine, then, we may have all that relates to internal medicine, such as diseases of the chest and abdomen, including of course the thyroid gland, heart and lungs, stomach, gall-bladder, spleen, kidneys, abdomen and bladder, and also fevers and general bodily disorders.

The surgical department of the hospital offers in some respects greater difficulties because of the fact that a larger number of well-marked specialties have developed among surgeons.

There should, of course, be a surgeon-in-chief who has control of the department and is at the head of it.

Subordinate to him, but autonomous in reference to their work should be capable assistants who can take charge of the numerous specialties which have grown up in surgery since the advent of asepsis.

There should be a good surgeon of the nose, throat, lungs and upper air-passages, a brain surgeon, an orthopedic surgeon, a genito-urinary surgeon and a gynecologic surgeon, all coordinate and each capable of doing the highest kind of work in his own department. The general surgeon should have a special responsibility for all general surgical procedures, such as thyroid operations, breast cancer, stomach, abdomen, gall-stone, gall-bladder, kidney operations and the like.

In such a division of surgical labor it is important to place in charge of the general work a man with liberal ideas and with a firm disposition to allow other men to develop to the fullest extent any special talent or inclination for a special branch of surgery. One man cannot possibly attend to these varied departments of surgery, and the greatest success can be attained only by the fullest cooperation of the different branches with each other to form surgery as a whole.

Neurology, in my judgment, should continue to be a branch of medicine, but there are certain neurologic affections which can be benefited permanently by surgical treatment alone, as brain tumors, pontine tumors, severe neuralgias and all difficulties of the pineal gland. These require surgical interference of the highest type, because so much in the way of physiology is involved in the study and relief of the disturbances of the nervous system.

Psychiatry should be absolutely separate and distinct from ordinary medicine, and no physician-in-chief can really do justice to it, owing to a lack of familiarity with mental diseases. These diseases are connected with other medical branches, including medicine, surgery and gynecology. Psychiatry receives aid from all these and in turn must sometimes be called on to help out difficulties which are found in the treatment of ordinary diseases.

RECAPITULATION

To recapitulate, we must have a general hospital with five divisions: medicine, surgery, obstetrics, psychiatry and pediatrics.

The medical department should comprise diseases of the head, chest and abdomen; of the stomach, bladder, the blood and blood-making organs; and the infectious diseases, such as rheumatism, gout, rheumatoid arthritis, parasitic diseases, diseases of the kidneys, intestinal diseases and nervous diseases.

The surgical department should comprise general surgery and the specialties of brain surgery, surgery of the nose and throat, chest surgery, orthopedic and genito-urinary surgery and gynecology.

The obstetric department should comprise the lying-in cases and the care of infants and nurslings.

The psychiatric department should comprise all mental diseases.

The pediatric department should comprise all diseases of children, including the eruptive diseases of children, scarlet fever, diphtheria, measles, chicken-pox, etc.

Many of these specialties are so important and combine such a variety of most useful material for teaching that it may be wise in many instances to make subdivisions within the specialties. The above arrangement is suggested more with the idea of exciting debate and stimulating inquiry than as a definitive arrangement. The ultimate division of service in each department must be largely left to the head of the department.

DIVISION OF CASES

Let us now consider for a moment the question of the division of cases between the different departments of a hospital. There is apparently no more vexing question to the gynecologist than the bounds of his surgical efforts and aspirations. Does he have any rights in the human body beyond the confines of diseases peculiar to women? He is constantly reaching out for new fields to conquer,

and often calls himself an abdominal surgeon with all that is implied by the name. He operates on the kidney, drains the gall-bladder or removes gall-stones, removes the appendix or seeks after the elusive duodenal or gastric ulcer with all the zeal of the general surgeon. I am inclined to think that he ought to be satisfied with his original domain, and that he is not called on to invade the territory of the general surgeon. The obstetrician sometimes has serious doubts as to the gynecologist's territory and is inclined to annex his present field of operation to obstetrics, yet I cannot help feeling that the assiduous practice of obstetrics with its wearing and prolonged nervous strain and its undue proportion of night work is incompatible with the pursuit of gynecology, with its equally harassing duties. I am clearly of the opinion that a line ought to be drawn between the two departments. For this reason I have come to the conclusion that gynecologic surgery ought to rank with other surgical specialties as I have already stated.

To whom shall we commit the duodenal and gastric ulcers? Manifestly, I reply, to the medical man until it is apparent that rest, proper food and suitable medication cannot work a cure. As soon as this becomes evident the surgeon should step in.

It is now generally agreed that appendicitis ought to have early surgical treatment, and the same is true of such disorders as gall-stones and kidney stones. The dangers of delay and the advantages of prompt surgical interference are much better recognized than formerly.

ABSTRACT OF DISCUSSION

DR. ALBERT JOHN OCHSNER, Chicago: The hospital must work on a systematic plan. So far the development has been personal; surgeons have developed the departments in which they are most skilled. This has built up badly balanced institutions, and unless some form of standardization is applied to an organization of hospitals, the further development from now on cannot be so satisfactory as it ought. Twenty years ago many of the best-trained surgeons drifted into these departments and developed a remarkable degree of progress;

but these men introduced primary principles that were good surgery, and as a result they had to drift back into general surgery, so that now the best gynecologic surgeon is the best general surgeon.

Patients are classified in most institutions by some person who knows nothing about diagnosis, and too frequently they are reclassified until they reach some point at which they receive the proper treatment, or are treated without the proper attention. Patients should be classified by men who have had at least five years' experience in acute diagnostics in some hospital and who know their business under the chief. I never send a patient into any department whom I have not examined personally and without putting my diagnosis in a sealed envelope; then the chief makes his diagnosis and compares it with mine. If I have made a mistake in my diagnosis I am going to hear about it, and if the chief has made a mistake he will hear it, as young men in the hospital are going to gossip, and that is what will keep him to his work and me to my work. If the chief has not time to examine each case he is not the man to be chief of the department.

DR. J. A. HORNSBY, Chicago: When hospital services are broken up into three months' services with enough men to take in the year, results will be unsatisfactory. If men cannot be kept busy in their own hospital they will keep busy somewhere else. The short-term service is based on the commercial idea that a sufficient number of men must be interested to bring in their private patients to keep the hospital full; but I do not believe it works out that way. I do not believe there is a hospital, excepting in the small towns, that need be suffering from want of funds. All that is needed is to convince a philanthropic person that something is being done for somebody who really needs it.

Men should be kept on the service throughout the year. The services may be indefinitely divided; let one man take gastric ulcers that go clear along to carcinoma; let him work them up. In the course of a year or two he is going to have a number of ulcers from their incipiency to the operating-table. He will attract attention if he is a worker and will soon have more cases until finally his experience will make him the best man for the place. When the work done in a hospital is known all over the country that hospital will be full of patients.

DR. C. A. DREW, Worcester, Mass.: Different hospitals must meet these problems differently. An incorporated hospital, supported by private funds, in a large city is different from a municipal hospital or a hospital related to a medical school. The hospital in which I am most interested is in a city of 150,000 with three other hospitals; there is no medical school. Our staff is appointed from men who have served in the

out-patient department; no one has ever been appointed who has not been approved by the staff, though pressure is brought to bear to have an "open hospital." A municipal hospital is supported in large part by taxation, and men who are not on the staff think that they should be permitted to send their private patients to that hospital, and that the patients should have the right to choose their own physician. An endowed hospital would not consider the question seriously, but with the municipal hospital it is a serious problem. Pennsylvania has tried to pass a law that each patient may have his own physician.

Our hospital has rotation in service. This is another problem that would be different were the hospital not municipal. We have a majority of the most skilful physicians in the city on our staff, but there are many who think they have as much right as the men on our staff to practice in the hospital.

DR. H. M. HURD, Baltimore: We are met here together as a body of hospital workers to consider ideal conditions—conditions which are best for the patient; we are not actuated by personal motives or political motives or a desire to do somebody a favor. We believe, as hospital men, that the object of the hospital is to do hospital work in the best possible way. We wish to benefit the patient, not primarily the physician, and to do our hospital work in such a way as to demand the support and confidence of the community. The only way to secure this is to do those things which are right without catering to a physician or to a religious denomination. What Dr. Washburn has said in reference to raising the standard of nurses illustrates what I had in mind. Many hospitals find it necessary as a matter of policy to take women under age, with inferior education, without good home surroundings, and without those antecedents which we believe are necessary to make the best nurses. They have nurses of the servant-girl type, educated in small private hospitals, nurses who have been invalids from tuberculosis hospitals, and having taken that class of nurses, are clamoring for a lower standard of nurses. Many small hospitals have inferior nurses because they are not giving the right sort of training. Hospitals which have raised the standard of training and preliminary education find plenty of good women from whom to choose. The same is true of interns in hospitals—if the standard is lowered, poor men are obtained; if it is raised, better men are attracted.

A FEW PROBLEMS OF HOSPITAL ORGANIZATION

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Administrator, Massachusetts General Hospital
AND
LOUIS H. BURLINGHAM, M.D.
Assistant Administrator, Massachusetts General Hospital
BOSTON

STAFF ORGANIZATION

The problem of the organization of the hospital staff is one of wide-spread interest, if we are to judge by the number of articles written on the subject. We propose to give a brief discussion of the existing systems, with a statement of the attempt which has been made at the Massachusetts General Hospital to solve this problem. The usual form of staff organization in the United States is that called "rotating." Under this system the beds in the hospital are divided into a certain number of services, to each of which several physicians or surgeons are allotted. One member of the staff of each service has charge of its patients for a given period, usually three or four months, when he is succeeded by another member of the staff who has charge for a like period. The arrangement is generally such that a man has but one shorter or longer term of duty each year. Let us enumerate the advantages which may be claimed for this method. The physician may devote a certain amount of time to charity work without interfering too much with his private practice. As a large number of men are necessary to man the hospital, and they are chosen from the local practitioners, the hospital is widely represented in the community and many people are interested in it.

This method gives opportunity to a number of men to become proficient. Against this form of organization several arguments are brought. The interruption in service does not permit the careful following out of a group of cases, investigation of methods of treatment or pieces of research. Many become proficient; rarely does one excel in a chosen line of work. Patients may suffer in that a man would not be so interested in the cases which are bequeathed to him by his predecessor as in those admitted to his own service. This method does not make for good teaching, granting that teaching benefits a hospital. Positions on such a staff might be given for reasons which were not entirely ethical, such as to attract private patients, to obtain the interest of wealthy or influential persons, or they might be obtained through politics.

The rotating service may be considered one definite type. Another type is the continuous service. This form of organization is the one prevalent in Germany, whence marked advances in medicine have come. This method consists of an arrangement such that there is a definite head for each major department who has a continuous service throughout the year, with assistants usually chosen by himself. The head of each department is chosen because of his acknowledged distinction in his line and fitness for the position, and not necessarily from the local profession. The advantages of this arrangement are that it enables one man with his assistants to follow for as long a period as may seem best a group of cases, method of treatment or a piece of research. It gives men the opportunity to add to the distinction already gained, and to become eminent in some one or several lines of work. Patients are under careful, continuous observation. Teaching can perhaps be better carried on under this system. It is argued that this method is financially more economical.

Against this arrangement certain arguments may be alleged. It does not interest a sufficiently large part of

the community in the hospital. It enables only a limited number of physicians to receive the benefits which come from a hospital. The scientific attitude of the men in charge does not make for the best care and greatest happiness of the patients entrusted to them.

In addition to these two well-defined arrangements there are some hospitals in which part of the services is continuous and part rotating. It is interesting to note that the search we made of the literature revealed only two articles in which the rotating service was defended, and none in which the utilization of hospital facilities for teaching was considered other than beneficial to the hospitals as well as to the medical schools.

We have not discussed the organization of the "open hospital," by which we mean a hospital which permits any reputable physician to care for his patients in its wards. Our reason for not considering this type is that we suppose that no one would claim that such an organization makes for the best care of patients or progress in medicine.

Two suggestions which we found we will mention as interesting. In one paper, in which a position in favor of the continuous service was strongly taken, the writer stated that the right to inherit a position should be entirely eliminated, and that there might be a great strengthening all along the line if the rule were made that no assistant could ever succeed his chief. The second suggestion was that the staff of the hospital (in this case, municipal) have a continuous service, with a senior and junior attending physician for a certain number of beds, that a man should spend five years as junior and then five years as senior visiting man, ten years in all, and that at the end of this time he should cease to be on active duty. The advantage claimed for this was that at the end of ten years a man will have acquired all that the hospital can give him, that his practice by that time will require all his time, and that this method gives an opportunity to a large number of men.

At the Massachusetts General Hospital an attempt is being made to obtain the advantages of both the rotating service with a staff of men sufficiently large to keep the community interested, and to furnish it with proficient physicians and surgeons; and the continuous service with its opportunities for marked improvement of the men along special lines, and its convenience for research and teaching.

The medical and surgical services are large enough so that each has been divided. Thus we have two chiefs on the medical service and two chiefs on the surgical service. We will not consider the office of surgeon-in-chief, which has no place in the permanent organization, as it is not to be filled when the present occupant retires. On the surgical side are two subsidiary departments, those of orthopedic surgery and genito-urinary surgery, each with its chief and his assistants. On the medical side is the subsidiary department of pediatrics with its chief and his assistants.

The special departments of neurology, dermatology and laryngology are also reorganized with chiefs of service on duty throughout the year.

On each service under the chiefs are two visiting physicians or surgeons serving six months each. These men have the routine care of such patients in the wards as are not otherwise assigned by the executive committee. Then each service has its own assistant visiting physicians or surgeons, out-patient men and assistants.

There is a medical executive committee composed of the two chiefs of service and the resident physician (the title of the superintendent of the hospital), a surgical executive committee constituted in a similar manner, and a general executive committee of six members made up of the two chiefs of the medical services, the two chiefs of the surgical services, a chief of one of the special departments elected by them, and the resident physician. The resident physician is secretary of the three committees. The management of the medical and sur-

gical affairs of the hospital is entrusted to these committees. It is hoped thus to get cooperation. Groups of cases are assigned to individual men throughout the year. On the surgical side, for instance, one man and his alternate have all the stomach surgery, another two men have the surgery of the brain and spinal cord, and other special problems are similarly treated. It is hoped to retain the advantages of proficiency in general surgery and at the same time make certain men expert in special branches of surgery.

There is a retiring age of 60 years and there is a rule of the trustees that vacancies on the staff are to be filled by the person most worthy without regard to seniority. The hospital stands ready to call suitable men from other cities and appoint them to its staff, when this can be shown to be advantageous. A more definite connection has been secured between the house and out-patient services as the chiefs are responsible for both.

Our experiment is as yet too young for final judgment. It has been in operation ten months on the surgical side and is just beginning on the medical side and in the special departments. We feel that we can say that there have been markedly better results in the treatment of patients in the groups of special work. This is a long step in advance.

The change has been attended by some heart-burnings, as was to be expected, but the spirit of the staff in putting the interests of the hospital before their individual interests has been admirable. The problems which arise are many and delicate, but on the whole we are making progress in their solution.

THE RELATION OF A HOSPITAL TO A MEDICAL SCHOOL

We believe that it is generally accepted that a medical school is definitely helped by a hospital connection, for the arrangements are usually such that the professors and assistants in the medical school have clinical positions in the hospital, and the value to the students of

bedside teaching and work as clinical clerks is great. The benefits to the hospital come through having men of eminence on the visiting staff, and from the presence of students in the hospital which assures to it that all the members of the staff will be kept on the *qui vive* and that the patients will be carefully and thoroughly studied from all points of view.

Complaint has been made that men who are connected with both a medical school and a hospital are more likely to let the latter than the former suffer, if one is to receive less attention. This should not be so. To avoid the possibility of this it may be wise to make arrangements so that the appointee shall feel that his appointment comes from the hospital quite as much as from the medical school, if not more. We doubt if an arrangement between a hospital and a medical school by which the members of the staff are to be chosen by the hospital from candidates furnished by the medical school would bring about this desired end. The large privately endowed general hospitals of America which have grown up independently of medical schools are probably as well off if they preserve that independence. The man whom the school would appoint professor of medicine or surgery does not necessarily possess the qualities desired by the hospital for a chief of its medical or surgical wards. The hospital needs a man with broad humanitarian principles, and one who can direct and stimulate the work of the men under him. If he is a teacher so much the better. If he is a teacher but not fitted for chief of service, he may well occupy another position similar to that of visiting physician or surgeon at the Massachusetts General Hospital, whereby he would have a six months' service; and he should be granted use of teaching material throughout the year. If a hospital and medical school have the spirit of cooperation, their interests are nearly enough identical so that nominating committees of the two working in harmony should have no difficulty in reaching conclusions satisfactory to both.

The matter of the expense of teaching medical students in hospitals is a serious one. The wages of nurses, orderlies and other attendants, and the cost of supplies used by students or because of teaching, make considerable items of maintenance. The medical school should recompense the hospital for this service. The cost of erecting amphitheater and special rooms for teaching may well be borne by the hospital if it preserves its independence. It is such a better hospital because there is teaching within its walls as to warrant this expenditure. If a hospital accepts from a medical school money to build laboratories and rooms for students, it really becomes a part of the university and should expect to give to the medical school some rights of nomination.

TRAINING SCHOOLS FOR NURSES

It seems wise to us to have the training-school an integral part of the hospital, as making for the economical management of both, for efficiency and for good discipline. We feel that the superintendent of nurses should be responsible to the superintendent of the hospital directly; but we feel that as superintendent of nurses a woman of such calibre should be chosen that she can be allowed to work out most of her problems herself. We feel that the educational standards for nursing should be kept high, inasmuch as in private practice more careful and intelligent observation, and more logical deductions from them are demanded, and in the other lines of work which are open to nurses, such as hospital administration, teaching, superintending of operating-rooms, district nursing and social service work, a high degree of intelligence and previous preparation is requisite.

With the increase in the number of training-schools and of places open to nurses has come a greater demand for probationers, so much so that many institutions have great difficulty in keeping an adequate corps of nurses on duty. The experience of the Massachusetts General

Hospital on this point may be of interest. Since the admission requirements have been raised, the amount of teaching increased, and the hours of work shortened, the hospital has had so many applicants that it has been possible to pick and choose probationers, a condition which did not exist before these changes were made. This has increased the cost of maintaining the training-school, but the nursing is now done better than previously.

We appreciate the fact that many small and special hospitals cannot hope to attract intelligent and well-trained women. Such hospitals would do well to realize that if they cannot furnish the necessary education and broad curriculum either within their own walls or by affiliation, they should not maintain training schools for nurses. Such hospitals should go to the expense of hiring graduate nurses. They may well train attendants.

Our object in this paper has not been to try to cover all or a large part of the problems of hospital organization, but to state three which we consider of major importance and to give what seems to us a feasible solution of each.

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ABSTRACT OF DISCUSSION

DR. C. H. COOK, Natick, Mass.: Patients in towns have a right to good care, which is often best supplied in a hospital, yet we are told that the small hospital should not have a training-school but should depend on graduate nurses. Where are the funds coming from to run such a hospital if the nurses are to be hired? The expense would be prohibitive; the small hospitals would be closed, and lives would be sacrificed that now are saved. Patients in the small hospitals receive better care from the student nurses, under supervision, than from graduate nurses, because graduate nurses cannot be hired to do what the student nurses do; they will be more independent. Graduates from an efficient small hospital

training-school are better qualified to prepare an operating-room for an operation, or to make similar preparations in a private house, and to assist the surgeon during the operation than are the graduates from the larger hospitals because they have been trained, to a greater extent than are the graduates from the large hospitals, to assist the surgeons, as in the large hospitals the interns render such assistance.

DR. F. A. WASHBURN, Boston: There are small hospitals and small hospitals. Those to which I referred should not have training-schools. These are the small special hospitals that are run for the benefit of one man. A small hospital can run its training-school so as to give the nurses good fundamental training; then they can go to some larger hospital for training they cannot acquire in the small hospitals; but these are hospitals in which the nurses are simply exploited and these schools should go out of existence.

THE MEDICAL SUPERINTENDENT

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Whatever business a man takes up, the better informed he is in regard to it the better he ought to be prepared to accomplish that work in a satisfactory manner. When a man has spent eight years in acquiring a medical education, it seems at a casual glance like a waste of that education, to apply it solely to the business part of a hospital, and it is, if a medical man cannot be of more use to an institution as its superintendent than a layman can be. If a hospital does not afford an opportunity for applying his medical knowledge, then, to deal frankly with the case, that institution should not have a medical superintendent. There are many good uses for a medical education besides the direct treatment of patients.

Not long ago I was in conversation with a medical superintendent of a large general hospital, and we were discussing the subject of interesting a bright young physician to enter the life of executive work. When we were in the midst of the conversation an older man appeared who had spent his life in executive work in insane and general hospitals. His attitude surprised us. He said that the young man in question was too brilliant for executive work — that he was capable of becoming a first-class clinician. His attitude, I think, is fairly typical of that of a large class of physicians and trustees; that the best brains should not be induced to enter on the executive work of a hospital, whereas, for managing a college or university the man with the utmost ability is sought.

THE HOSPITAL EXECUTIVE SHOULD BE A PHYSICIAN

I am one of those who believe that a general hospital in its executive work does present an opportunity for using all of the ability that any physician possesses. I do not believe that a medical education is wasted if the possessor applies himself diligently to the management of a general hospital. The man who feels that it is below him, that he is engaged in something that he does not prefer, is pretty sure to do his executive work at such arm's length that it will not be successful.

I have endeavored for the last twelve years to induce the brightest men that I could get to enter executive work and tried to impress on them that there is no part of the work in a general hospital that is beneath their serious study and consideration. When you once get a man to assume this attitude — that it is a serious business, and that the minutest details are worthy of serious consideration until it is established on a sound basis — he will then dignify the work so that our brightest men, not only among the staff but physicians outside, become interested and the executive position is elevated.

We must remember that there was a time when the medical and surgical profession was looked down on by what was called the highest class of society. The physician or surgeon was not thought worthy of being invited to the table of the better class of people. This attitude toward the profession has not entirely died out in some countries of the world.

I honor the medical and surgical profession more than any that I know of and I believe that by running a general hospital as a serious business I can aid medical and surgical advancement as much as I could in any other way.

There are those who are not suited to executive work. It is a mistake to induce a man to take up this work if it is distasteful to him, but if he has the proper

characteristics he will find that in the running of a general hospital there is plenty of opportunity for the application of all the medical knowledge he may have acquired.

ASSISTANTS SHOULD DO MEDICAL WORK

Some twenty years ago I became the superintendent of an institution in which I had previously been, as first assistant, responsible for the medical and surgical work. I accepted the superintendency under the misapprehension that I could delegate to some one else the business part of the institution, and that I could still devote myself to the medical and surgical work. I am certain that I never would have accepted the superintendency if I had not been convinced in my own mind that this was possible.

The superintendent of a large institution is responsible for all the contracts for supplies, and for the conduct and efficiency of all the employees. I found within three months, much to my disgust, that I was no longer of that use to the patients that I had been; that, in spite of all my efforts, details of contracts, prices of materials, and in fact the financial complications of the institution would run in my mind when I was examining a patient and trying to give my best attention for the benefit of that patient. I then made up my mind to throw the responsibility for the medical and surgical work of the institution on others; that having a medical education I ought to be preeminently fitted for selecting able and efficient assistants, and that I would devote myself to the business end of the institution to make that efficient and economical, in order that it might furnish many things it never before had been able to furnish. Since that time I have devoted myself to the management of hospitals, and I have been convinced that my medical education has been an assistance rather than a hindrance.

The insane hospitals of this country have medical superintendents universally, so far as I am aware. These

medical superintendents are supposed to be at the head of the medical work, experts in psychiatry, and also to be the head of all the business of the institution. This seems to result in some cases in the neglect of the business end of the institution for the sake of the medical, and in others the emphasizing of the business end to the neglect of the medical. In other words, it is well-nigh impossible for one man to be really responsible for the business of a large institution and to be its actual medical leader also. It is rather amusing to see the assurance with which some men try to convince you that they occupy such a position successfully. We who know the facts realize the impossibility, and I believe the time will come when the superintendent of the hospital will not actually assert that he is the leading psychiatrist in his institution, but that he simply selects able physicians to treat his patients and from his medical knowledge is able to judge whether they are proper persons to do it.

General hospitals, on the other hand, have done quite the opposite from the insane hospitals.

QUALIFICATIONS OF THE SUPERINTENDENT

The modern general hospital is quite a different institution from what it was fifteen years ago, and there is plenty of work to tax the energy and ability of the best-trained man in the management of such an institution. In the first place, the hospital should be a first-class hygienic machine. The superintendent should be a judge of all the elements that enter into this hygienic machine — the cubic feet of space for each patient, the proper ventilation, the machinery or equipment for doing the medical and surgical work, and the necessity of having laboratories for pathologic work, for physiology and for chemistry — so that he may be of assistance in giving his trustees proper advice as to the necessities of these adjuncts in running a first-class hospital.

Physicians not infrequently are poor business men, and not infrequently look down on the traits that make

good business men; when they assume this attitude they are sure to make poor superintendents. They do, however, by education necessarily know more what the needs of a hospital are than a layman can hope to learn, and a resident staff will allow them to attend to certain kinds of business which interlace with medical knowledge, whereas it would resent a lay superintendent's attending to the same business. If a staff is to give its best efforts to the treatment of the patients it needs to be relieved of every possible business detail. The reason that this subject is open to discussion at all is that the least efficient medical superintendent is often compared with the best lay superintendent. One reason that women nurses make such good superintendents of hospitals is their practical medical knowledge acquired from long experience and close association with the patients and physicians.

The hygiene of a hospital should be perfect, and medical knowledge is essential in keeping the hygiene up to a high grade.

A medical superintendent can admit patients and place them with comparative accuracy, while, as a rule, when a lay superintendent is employed this part of the work is turned over to inexperienced members of the staff who usually do it crudely because they consider it drudgery.

The question between the lay and medical superintendent, as a rule, comes up as an item of expense. Some hospitals do not feel that they get an advantage for the extra salary paid to the medical man. As a matter of fact, they should, and if they do not, I believe this to be a fair criticism of the medical superintendent.

Not all our institutions are run on a good business basis. It is our habit to compare one with another, when the institutions are similar, by simply giving the per capita cost by the week or by the day; and the one that is running at the least per capita cost, in a general way, is supposed to be the best-run institution.

Yet it is perfectly well known by every intelligent superintendent that some which are conducted at a low per capita have extravagant departments.

There should be some method evolved by these highly trained superintendents by which this per capita cost could be analyzed and the finger put on just that part of it which is excessive. Thus there would be a chance to study that department and improve it. This studying and analyzing the per capita cost, after a while, produces a standard to which every intelligent man should be obliged to conform or he should have to explain why he cannot. Many English institutions have arrived at these standards. In conversation on the subject, more than one Englishman interested in hospitals has produced from his pocket a little book which would give a correct analysis of his weekly per capita cost: what percentage was tea, coffee, milk, butter, nursing, heat, etc. Your reader will have to acknowledge that he has contented himself with trying to run his institution economically and efficiently, without creating a standard to which the individual articles that made up the per capita cost should conform.

Every hospital is supposed to exist for its patients. If it cares for its patients well and scientifically, its reputation should grow, and on the average it does grow. It has been found to be better for the hospital and the patient that teaching should be done in the hospital. In its laboratories all scientific work allied with the treatment of the sick should be carried on. That this work adds in the long run to the light that can be shed on the patient's case, in diagnosis and treatment, is well known.

It would seem that the superintendent who would best understand this scientific work, this medical and surgical work, would be the best judge as to what the needs of a hospital are and in that way would have a clearer view as to what should be done to aid its patients and to give them the best care. This care of the patient,

as physical, medical, or surgical, is more or less supervised by the chief surgeon and chief physician, but they should be assisted from the administrative side, and light should be shed on the efficiency of the care and treatment of the patient, so far as it can legitimately be done, from the point of view of the superintendent. I do not mean by this that the superintendent should interfere in the treatment of any individual case, but his inspection should show him whether patients are attended to promptly on entrance or whether there is probable neglect or delay in caring for the patient during any part of his stay in the hospital. A superintendent without the medical education cannot give this sort of service, which I believe to be the highest service that can be given by the superintendent because it conserves the time of the chief surgeon and the chief physician.

The superintendent who knows most about the medical and surgical work has the clearest view of the needs of the institution, and the highest incentive, therefore, for conducting the business on economical lines so that money thus saved may be expended in the actual need for further development.

If this paper, by suggestion or otherwise, has raised in your minds a clear picture of the complicated medical machine that a modern general hospital is with its ramifications on one side into the various scientific laboratories, and on the other side through its social service into the defective and diseased parts of the community, then I will leave it to you whether it is not worth while that the superintendent of this machine shall be required to have a medical education.

ABSTRACT OF DISCUSSION

DR. H. M. HURD, Baltimore: I have always been in the habit of saying that the most necessary thing in a hospital is a medical superintendent. Some years ago in the hospital of a neighboring city the question came up as to whether the superintendent should be a layman or a medical man and the board of trustees, after much discussion and effort

to get a layman (they were business men who had an impression that no physician could be a business man), finally were compelled to choose a physician and later came to the conclusion that a medical man was absolutely essential, because a layman could not decide the necessities of a hospital from the standpoint of the medical men. I always urge that teaching hospitals have a medical superintendent. In other hospitals, where there is no medical teaching, it is not essential; I know many hospitals where I am sure a trained nurse makes the best superintendent. Where a hospital is small and the funds are low, the same person can act as superintendent of the hospital and as superintendent of nurses. Where a hospital has from 150 to 200 patients and it is necessary that the superintendent should attend to certain duties in the house and outside, I see great advantage in appointing a layman. It is rather interesting to see how different cities of the country have varied in their appointment of superintendents. Many years ago, the general hospitals in Boston had medical men as superintendents; New York had only lay superintendents. Recently in New York medical superintendents have been appointed in many of the large hospitals, although excellent men are still in charge of hospitals who are not medical men.

Dr. Elsworth Smith, Jr., St. Louis: In St. Louis, in our large general hospital, as far back as 1887, when I was an intern, we have always had a medical superintendent. He has also had charge of both the care of the patient and the business end of the institution. Recently, after reorganization, the first appointment was of a man as superintendent who is a cross between a medical and a layman, a dentist. This did not work very well and there now is an excellent medical man as superintendent, besides a medical man who is at the head of the medical part of the work, a supervisor of wards, and of course, a large visiting staff. I am connected with a hospital that is under the care of the Sisters of Charity. There a sister is in charge as superintendent, who has entire control of the institution, both the business phase of it and the medical phase by consulting with the staff. While she is a woman of great ability and one who wants to appreciate the highest ideals, she is nevertheless handicapped because she is not in a position to understand the needs from a physician's point of view. I feel that in any institution of great size, especially a teaching institution, a medical superintendent would be preferable.

Dr. G. W. Green, Chicago: There are a great many of the smaller hospitals that Dr. Hurd mentioned with fifty to 100 beds that cannot afford medical superintendents. They are compelled to have a trained nurse fill this position. Eighty-seven per cent. of hospitals have 100 beds or less; so there must be a considerable number of superior trained nurses to

keep these positions filled, for they cannot afford medical superintendents.

DR. J. A. HORNSBY, Chicago: Some years ago a hospital in a city of 350,000 was about to change its superintendent; the superintendent, who had no medical training, but who was supposed to be a very good business man, got into trouble with the medical staff and they wanted to get somebody else. They asked me to give them some advice. I suggested a medical superintendent; they said that they could not afford to pay a medical superintendent, they could not afford to pay more than $1,800 to $2,000 to anybody. I said I thought they could afford to pay $3,000 or $4,000 to start with; I advised them to gamble on it for one year and if, at the end of the year, they found they had made a mistake, they could go back and get somebody for $1,500 or $1,800, or perhaps $75 or $80 a month, because it had been said that one of their number had to go to the hospital every morning before he went to business to give directions for the day's work. They gambled that year. They got a man I recommended to them and paid him $4,000 salary and at the end of the year they made him a little raise. They found in the course of a year that this superintendent had won a place for himself; that he had become one of the lights in the community without butting into the business of the medical staff; he had displayed business acumen and ability, coupled with diplomacy, and after all had made good within one year. That man had met all the people in the community, and the women in the community would do almost anything he wanted them to do. He could attract philanthropists and people of means and get them interested, so that his salary had become a matter of little moment, for the money he had attracted and the popularity that had come to the institution because of his being there, had more then repaid them for that little advance in salary.

DR. P. E. TRUESDALE, Fall River, Mass: To my mind there are few jobs which demand a wider range of average good qualities than that of the hospital superintendent, especially in large institutions. This executive needs a keen sense of values; the ability to size up people and everything that comes with them; to rate physicians, nurses and employees for the main purpose of getting from them their best work. Physicians generally are considered poor business men, and are looked on as easy victims by promoters of all shades. There is no rational excuse for the doctor failing to employ average good business methods in his practice, and cultivating a sense of discrimination in finance as well as in medicine. The business ability of the hospital superintendent, however, needs to be of high grade, and possessing a medical education in addition best prepares him for a career of splendid achievements.

INDIVIDUAL PROPHYLAXIS IN CHILDREN'S HOSPITALS

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Institutions for the housing and treatment of infants and children are constantly subject to local epidemics. Every one who has had experience in the administration of children's wards or pavilions knows how the service is frequently interrupted by the occurrence of an infection or a contagious disease which is soon followed by an epidemic of contagion.

In many of our American institutions in which the facilities for the care of infectious diseases are meager, or entirely lacking, the hospital is thrown into consternation when infection occurs. Nothing will so quickly disorganize the efficiency of a children's department as one of these epidemics.

It is a well-known fact that hospitals and asylums for infants and children have been closed or abandoned on account of the ravages of contagion. It is unfortunate to be compelled to close, and the proper quarantine of nurses and interns becomes a serious and difficult problem. When one figures in terms of money outlay the occurrence of such an epidemic it is plain that it is costly from the standpoint of administration. The hospital is compelled to operate, as a rule, without the possibility of admitting new patients, the cost of maintaining the quarantine is considerable, and the subsequent disinfection and renovating are considerable items of expense.

MANNER OF INTRODUCTION OF INFECTIONS

Contagion.—An infant or child may be admitted who is suffering from the prodrome of measles or scarlet fever; or he may come from a home where other children have been ill from one of the infectious diseases, where he already has been exposed to contagion; or at other times a patient is admitted with a latent infection. Thus, an infant may be admitted with an inactive vulvovaginitis, or another may enter who has recently recovered from diphtheria with virulent Klebs-Löffler bacilli still present in the throat; or a child may show slight desquamation after a scarlet fever; or a young infant with an unrecognized, though open, tuberculosis may be admitted into the general ward. These conditions may be communicated to other infants in a manner which we will consider later.

Visitors.—It is safe to say that visitors at times bring infection into the wards; indeed, the matter of visitors and visiting is a problem in the administration of children's hospitals which requires the most delicate treatment. It is no small matter for parents, in most instances, to give up the custodial care of their children to an institution. To be denied the right to visit them would entail a hardship on parents which would seem almost inhuman.

I have sometimes thought it would be a wise precaution to request visitors to remove their outer garments, and clothe themselves in clean white caps and gowns and cloth coverings for the shoes before admitting them into the general ward. While this could be carried out it would meet with some objections on the part of the visitors and might for a time tend to diminish hospital patronage. More than anything else it would increase the already large expense account, though I think that in the end the cost would be overbalanced by the loss sustained in shutting down.

There is another and more vital reason why strenuous effort should be made to prevent infection. The most

neglected and severest cases find their way to the children's wards of our various hospitals. Children suffering from rickets, pneumonia, tuberculosis and marasmus offer little resistance to infection with diphtheria, measles, scarlet fever, whooping-cough and the other communicable diseases. It is obvious that the mortality from these cross-infections must be high; and any one who has suffered the personal mortification of witnessing a pestilence sweep through the wards, and who has felt the reproach from parents, and sometimes from the board of administration, knows how indescribably sad and depressing such an occurrence is. The so-called gonorrheal vulvovaginitis which frequently finds its way into the wards of infant's and children's hospitals is one of the most dreaded and most difficult to manage of all infections which we are called on to meet. Once it has gained access it is likely to spread from one infant to another until the female occupants of an entire ward have become infected. These cases run a protracted course and offer the greatest difficulty to hospital administrators. To send these children to their homes frequently means the infection of other children in the family. It is difficult to see how infection can be avoided in homes where ignorance, filth and squalor exist. An infection of one or both eyes may occur, or more rarely a joint-involvement, or occasionally some gonorrheal complication may take place. To keep such children in the public ward is impossible, yet to send them into isolation means not only that they should be kept from children not previously infected, but that they should be given care and treatment for months or even years. It is obvious, then, that it is the highest function of a hospital to prevent the spread of this contagion.

Diphtheria.—The management in diphtheria frequently presents the most difficult problem for solution. Occasionally a child is admitted with a nasal discharge which after investigation is found to contain diphtheria bacilli. As a matter of actual experience other patients

may become infected before the nature of the disease has been suspected or ascertained; but strange to say, the bacilli of diphtheria seem to travel and diffuse themselves more rapidly than does the actual disease. For example, there may have been one or two well-defined cases of diphtheria in the ward. If cultural examinations be made from the throats of all the children in the ward one is frequently surprised to find that almost every patient gives a positive cultural reaction, though without the occurrence of membrane or sore throat. If the same tests are made from the throats of nurses and interns positive results are obtained frequently. We have then to deal with a wide-spread diffusion of diphtheria bacilli in throats of patients, interns and nurses who are not definitely sick with diphtheria. Careful study in the laboratory shows these microorganisms to be morphologically diphtheria bacilli, and animal experiments have attested to their virulence. The problem which requires solution from the administration is: Can new patients be admitted into the infected ward safely? Should interns and nurses who show the presence of this microorganism be allowed to mingle with other hospital attachés in other parts of the house? Should we permit those whose throats are infected to share the sleeping-chambers and dining-room with those who are not infected? The solution of this whole problem is difficult, because by closing down we are resorting to extreme measures; but nothing short of complete quarantine ensures safety to other children and attendants and prevention of contagion. Quarantine and isolation should continue until the organisms have disappeared from all the throats.

Not the least provoking thing in this whole situation is the persistence which these organisms show; sometimes two or three weeks elapse, or even a month, before the bacilli have disappeared. It should be emphasized that the presence of diphtheria cannot be excluded simply because bacilli are not found in one single cultural test.

Repeated daily examinations are necessary. At least three negative cultures should be required to exclude diphtheria.

The thought almost immediately suggests itself that the diphtheria situation could be handled by administering diphtheria antitoxin to all those who have been exposed to the infection, whether throat examinations show the presence of diphtheria bacilli or not; but, as has been stated, in some of the epidemics which I am referring, to only a few of the patients have been actually sick with diphtheria. We know, too, that the diphtheria bacilli persist and may remain virulent to others after the patient has been treated and cured with antitoxin. In this sense antitoxin is antitoxic but not bactericidal, and recently our respect for antitoxin has increased. We have learned that its indiscriminate use may produce conditions which at times are undesirable, or indeed alarming, and clinicians as a rule would use it in those cases only in which it was clearly indicated.

If a single case of infectious disease occurs it is needless to say that it should be removed from the general ward as soon as possible. In the case of a diphtheria epidemic, throat cultures should be made from all those who have been exposed in the ward. In any event if one or more positive cultures have been obtained it would be well to close the ward temporarily in order that it may be kept under observation and the further progress carefully controlled by making daily throat cultures, and by a system of isolation and general prophylaxis. Ordinary gargling and spraying with the antiseptic substances in general use do not seem to destroy diphtheria bacilli. Diphtheria carriers have been treated according to Page[1] by using vaccines of *Staphylococcus pyogenes aureus*. His patients made most satisfactory progress, the diphtheria bacilli disappearing from the throats in from forty-eight to seventy-two hours. He used pure cultures of *Staphylococcus aureus*. Catlin, Scott and Day[2] have

1. Page, Henry: Arch. Int. Med., 1911, vii, 16.
2. Catlin, S. R., Scott, L. O., and Day, D. W.: THE JOURNAL A. M. A., Oct. 28. 1911, p. 1452.

employed the same method and report satisfactory results in eight cases. In view of the few reported cases one would hesitate to recommend this method. A plan of treatment for ridding throats of diphtheria bacilli along these lines is much to be desired.

Measles.—I have seen measles spread like wildfire through an infants' ward causing disaster which was deplorable. And chicken-pox once gaining access to an infants' hospital seems to spare none save those who have been protected previously by the occurrence of the disease. Strangely enough, I have seldom seen extensive epidemics of scarlet fever or whooping-cough in children's hospitals, though these patients are occasionally admitted into the wards before they are positively identified. Possibly my own experience has been more fortunate than that of others, but I have rarely seen widespread epidemics of these diseases in hospitals; not so of orphan asylums and infant asylums where I have frequently observed scarlet fever and whooping-cough gain a firm foothold.

The so-called grip infection, especially in infants' wards, is not infrequently disastrous. Possibly a nurse is suffering from an acute cold, or from a severe naso-pharyngeal infection. In another day or two an infant has a similar affection and before long several of the infants, or indeed all of the occupants of the ward, are coughing and sneezing, and showing injected conjunctivas and red throats or swollen tonsils and elevation of temperature. In a few days some of these infants show laryngeal involvement, and some develop broncho-pneumonia. The mortality from this epidemic disease is considerable, and I have seen almost an entire ward devastated by grip epidemic.

Epidemics of pneumonia, other than of the grippal variety, have been reported; and wide-spread dysenteric affections are of occasional occurrence.

Syphilis from congenital syphilitics is sometimes communicated to infants who have not been previously affected. Cassel of Berlin has informed me verbally of

some of his own experiences with this form of transmission. He has recently published[3] a report on "The Dangers of Syphilitic Infection in Modern Infants' Hospitals." He cites several cases and points out the menace of admitting these children into general wards.

In the light of modern investigation one would think it necessary to isolate patients with cerebrospinal meningitis, as well as those with acute poliomyelitis. I do not know of a single instance in which these diseases have been transmitted to other patients in hospital wards. This does not hold true of typhoid, and certainly not of cases of open tuberculosis. With these latter diseases evidence of transmission is too well authenticated to require further comment.

Pyocyaneus and other pus infections occur in infant wards as in general surgical wards, and are difficult to control.

PROPHYLAXIS

The exclusion of epidemic contagious diseases and infections from children's hospitals depends on an accurate knowledge of the sources of the diseases and the avenues of their introduction, together with a most painstaking technic for their prevention. This technic is difficult of execution. In many of our hospitals and institutions with rotating services, with a somewhat half-hearted interest of attending men, and with an inefficient supervision or directorship, definite or stable rules of administration are difficult to carry out.

A children's or infants' hospital, almost more than any other institution, requires well-thought-out, unvarying rules of administration. The technic for the prevention of infection and cross-infection should be stringent and invariable, the cleanliness and general asepsis as perfect as that of the surgical operating-room. It is evident that the first essential in the proper conduct of an infants' or children's hospital or ward is a matter of efficient administration. Attending physicians, interns, nurses

3. Cassell: The Dangers of Syphilitic Infection in Modern Infants' Hospitals, Arch. f. Kinderh.

and all others who have access to this department should cooperate in the plan of prevention as it has been worked out. Having proceeded thus far it is all important that one or more of the hospital officials or attending staff should have authority conferred to enforce the rules of technic which have been agreed on, because it is common experience that, unless there is centralized authority or supervision, lapses occur to the detriment of efficient administration. With the frequent changes in nurses and interns the watchword from those in charge to those who are subordinate should be eternal vigilance.

Many of the lapses which occur may be charged to the carelessness not only of the interns and nurses, but also to attending men. The latter are frequently thoughtless, or even careless as they pass from one patient to another.

I have frequently thought that much of the transmission of disease occurs during the night Night nurses are nearly always overworked; often they take care of three or four times as many patients as would be required of them during the day. They rush from one child to another without precaution of disinfection, or even of cleansing their hands. Bed-pans and thermometers are used indiscriminately from one patient to another, and often there is no supervisor in the form of head nurse or senior ward nurse. Though the young night nurse does the best she can, errors in her technic are liable to occur, owing to the circumstances under which she is laboring.

HOSPITAL CONSTRUCTION AS AN AID IN PROPHYLAXIS

The building in which the children are to be housed should be kept absolutely clean, and should admit of the most thorough ventilation. Every form of overcrowding should be avoided. The floors should be perfectly smooth, easily cleaned and devoid of cracks and holes, which accumulate dust and germs. As in all modern hospitals, there should be no angular corners, and the walls should be easily cleansed and not contain pictures,

unnecessary moldings, or memorial tablets. If the wards are small the number of children who are exposed to contagion is necessarily reduced. An observation station consisting of small individual rooms or cubicles should be provided for, so that the newly admitted patients may be kept under observation for a number of days, or in some cases for two weeks, until the possibility of introducing infection has been excluded. Numerous small rooms should be provided in connection with the general wards so that infants who develop skin eruptions, grippal affections or other infectious or suspicious processes may be removed at once from the ward to more or less complete isolation. It should be possible to isolate one ward from another; for example, if an infectious process has occurred in one ward it would be expedient to close this ward to the admission of new patients and to prevent nurses and interns engaged in such an infected ward from mingling with other patients as well as other nurses and interns.

CLINICAL AND BACTERIOLOGIC EXAMINATIONS OF PATIENTS ON ADMISSION

There is some difference of opinion as to the value of making throat cultures and bacteriologic examination of the vulvovaginal region on the admission of the patient. It is a precautionary method which can do no harm, and while undoubtedly it occasionally fails to reveal the presence of either diphtheria or a gonorrhea, nevertheless it frequently assists in the detection of one of these diseases before harm has been done. We have adopted this plan for many years past and it has frequently aided us in discovering a communicable disease. It is almost needless to say that the child should be completely undressed, should be carefully examined for skin lesions and the presence of congenital syphilis, and that the mouth should be examined for Koplik's spots. Acute or open tuberculosis should be investigated by careful physical examination. A history should be obtained as

to whether the patient had been exposed directly to any contagious disease before admission, and note should be taken of any contagious disease from which the patient had previously suffered. He should be examined and then sent to the observation station. The observation station should be so arranged that in most instances only one patient is assigned to a single room. The room should admit of careful isolation and should contain running water and facilities for heating food or bottles on a gas stove or an electric plate, and for bathing the patient in the room. It should be the routine practice that every attendant who comes into this room should don a fresh cap and gown on entering; he should wash his hands carefully before handling the patient and should remove the cap and gown on leaving the room. This should apply to attending men, interns, nurses and, if possible, visitors.

PROBLEMS IN INDIVIDUAL PROPHYLAXIS

In a given case it is difficult to know exactly how an infant has become infected, or in what manner an epidemic has been started. Possibly the utensils which the patient needs in his care and treatment, possibly the linen or the hands of nurses have done the mischief, or interns may have spread the infection. In order to obviate the possibility of diffusing infections through a hospital the following points should be borne in mind:

Each patient should have his own thermometer, bed-pan, dusting-powder box, basins, wash-cloth, towel, and his own bath tub. The linens, clothing and napkins should already have been boiled and laundered. The patient should be dressed and undressed on his own bed, not on a table in general use. The scales in which he is weighed should be covered with a paper napkin or a sheet of paper which should then be destroyed; or the scales should be covered with a diaper which will subsequently be used on the patient. The nurse should wash her hands frequently, particularly as she passes from patient to patient. There can be no doubt that the

infection is frequently carried on the hands of those who handle the child. The same rules should apply to interns, attending physicians, nursery maids and in fact, every one who treats the children. Simple as these rules seem, they are difficult to carry out. I recently suggested during a period of stress from a diphtheria infection that the nursery maid and nurses should wear rubber gloves which should be changed as they passed from one patient to another. It is obvious that such a rule would be expensive in time and in money if it were to become a permanent law.

It is evident that a children's hospital, or institution, presents difficulties which require the utmost thought and the most careful precautions. It is absolutely impossible that infections or infectious diseases can always be detected on admission of the patient, so that mild epidemics will occasionally occur. It is, however, possible by employing the most stringent methods, to prevent wide-spread epidemics if the organization works in complete harmony, living up to the most accepted views of prevention and general hygiene. In order to accomplish this the medical and nursing staffs must be awake to the necessity of all that pertains to prophylaxis, and must give most careful attention to all the minor details which, taken into the aggregate, contribute a technic of prevention and will solve many of the difficulties of administration.

The hospital should be properly constructed and provided adequately for quarantine and isolation. The spirit of thoroughness, helpfulness, enthusiasm in the work and a zeal to prevent the epidemics which we have referred to should pervade every one in the institution from the highest to the lowest.

4236 Vincennes Avenue.

ABSTRACT OF DISCUSSION

DR. J. O. SKINNER, Washington, D. C.: Do the Chicago health laws require cases of spinal meningitis to be isolated? Dr. Abt said that these cases do not have to be quarantined.

DR. J. A. HORNSBY, Chicago: Our laws are peculiar. Several years ago on looking into the laws I found that I would have to go to jail whichever way I interpreted them. A child with diphtheria came to our admission room. The law forbade receiving the child but also provided that communicable diseases must not be sent anywhere in a public conveyance. There was no private conveyance to which we had access, the health department had no ambulance available, but the child could not be kept in the admission room because it was dying. We gave it antitoxin and took care of it as best we could. The law prescribes that cases of cerebrospinal meningitis shall be isolated but we never isolate spinal meningitis or typhoid fever cases. Chicago prescribes a lot of things but has no means for their enforcement.

DR. J. O. SKINNER, Washington, D. C.: Dr. Abt does not consider the segregation of cerebrospinal meningitis in children necessary. I thought it necessary that these cases should be isolated and rooms fumigated, etc. One winter a nurse from Schenectady, where there was a cerebrospinal meningitis epidemic, came to Washington, and four months later she developed the disease. As there was only one other case in Washington, a tuberculous spinal meningitis, the nurse evidently brought the infection. The period of incubation is not known. If Dr. Abt does not consider the isolation of these cases necessary, it is important for us to know. We have always regarded them as highly contagious and infectious. In this case we fumigated the rooms, clothing, etc., and that was the only case that occurred.

DR. J. A. HORNSBY, Chicago: We make no attempt to isolate cases of cerebrospinal meningitis or typhoid fever.

OUT-PATIENT WORK

THE MOST IMPORTANT AND MOST NEGLECTED PART OF MEDICAL SERVICE

RICHARD C. CABOT, M.D.
BOSTON

If a patient in a hospital ward should have pneumonia you would not think of filling up the other beds in that ward with members of the patient's family who may be going to come down with pneumonia. But when one phthisical patient applies for treatment at any up-to-date dispensary it is obviously the duty of the dispensary to send for the rest of the family exposed to infection and have them examined, and, if need be, treated. One case of rickets is the symptom of more rickets in that family, present or to come — the single rachitic seen at the dispensary is but a single symptom of the rachitic forces at home. Physicians never like to treat symptoms; they want to get down to the roots of things. One case of lead-poisoning means more cases in that shop; one case of vulvovaginitis means a nest of them in the neighborhood.

THE FIELD OF THE DISPENSARY

Out-patient work naturally leads us to follow up disease to its lair in the spirit of modern preventive medicine. Ward work deals mostly with isolated cases after the disease is in full swing. It cannot be radical, fundamental, preventive, like dispensary work.

Again, in ward work we can seldom deal with the incipient stage of disease. The patients are not sick enough to occupy a bed. But it is just in the incipient

stages that phthisis, stomach trouble, malnutrition, exophthalmic goiter, lead-poisoning can be more successfully treated. The community profits far more by this bud-nipping treatment in dispensaries than by the palliation of advanced disease in hospital wards.

The dispensary has another advantage over the wards in the management of chronic cases. Patients with these troubles are better for being kept at work and in their homes. They get hospitalized and flabby in the wards. Yet they may need guidance and advice from time to time over a period of many years and this they can best get in a dispensary.

The dispensary, then, hits the problem of disease at three most vital points where the wards cannot: 1. It roots out foci of disease in families or neighborhoods, following home the clues presented in the person of the dispensary patient and so preventing disease. 2. It checks disease in its incipiency. 3. It deals with chronic cases and keeps the patients from relapsing into a discouraged and vegetative existence.

THE SLOVENLINESS OF DISPENSARIES

Yet in spite of these three distinguishing marks of superiority, and in spite of the fact that almost all hospitals treat five times as many persons in their dispensaries as in their wards, we still allow the tradition of superficial, slovenly work in dispensaries to go on. We allow the great dispensary abuse — not the abuse of the dispensaries by the patient, but the abuse of the patient by the dispensary — to go on. We allow snap diagnosis, treatment that will not bear scrutiny, records that are a farce. We are content that hospitals should spend at least twenty times as much for a ward patient as for a dispensary patient.

From the point of view of public service and public health this is all wrong. Some day the magazines will find us out and make a scandal of the slovenliness of

our dispensaries. We ought to make haste and reform ourselves from within before the storm of public disapproval breaks over our heads.

MORE SCIENCE AND MORE CHRISTIANITY NEEDED

The remedies are two: more science and more Christianity. Scientific management, efficiency tests, have just begun to permeate our dispensaries, thanks to the splendid work of Michael Davis at the Boston Dispensary. We treat many cases of scabies, of varicose ulcer, of constipation, of hemorrhoids, of chorea, but what dispensary has followed up its results enough to know whether the time and money spent in these cases has been wasted or not? Not one that I know of except the Boston Dispensary.

Some clinics are efficient, especially those in which treatment can be administered and finished at once. If you sew up a cut or inject a dose of mercury or fit a flat-foot plate, you may be able to finish the work then and there. It is the medical, neurologic, pediatric and skin clinics that are relatively slipshod.

Hurry, crowding and too few assistants prevent creditable work in many instances. There should be in each clinic a fixed ratio of space, staff and outfit to the number of patients received, as there is in a ward. There is no sense in allowing dispensary work to be a hurried and desperate struggle against time and numbers.

It is possible to do as accurate scientific work in diagnosis and treatment at a dispensary as at a private office. It means honest, conscientious, efficient, well-organized, well-supervised work, with the interest of the patient rather than that of the physician or the student always paramount.

In like measure do we need the Christian spirit to make our treatment effective. We no longer administer our drugs with adjuvants to strengthen them, with demulcents to soften their harshness, and correctives to

modify their one-sided action. All the more literally and practically, therefore, we need for efficient treatment a fund of patience, of cheerfulness, of readiness to be interested in each least promising and most unattractive individual in the clinic, that in my experience comes best out of the spirit of Christianity. Individuals must cooperate with us if we are to help their stomachs, their tuberculous lungs, their chronic joint troubles. The patients need heroism often if they are to overcome their troubles. They will not get it out of drugs or physical therapeutics. They must get it from their physicians. A physician who goes stale when he comes to treatment is nearly useless, and we all go stale without Christianity.

190 Marlboro Street.

THE EFFICIENCY OF OUT-PATIENT WORK

MICHAEL M. DAVIS, JR., PH.D.
Director of the Boston Dispensary
BOSTON

According to the census of 1910 the three cities of New York, Chicago and Boston have a combined population of 7,622,751. It was recently estimated that 45 per cent. of the people in Chicago were receiving dispensary aid; in Boston and New York the estimates indicate that the proportion is not less than one-third. In these three cities the out-patient departments and reputable dispensaries are providing medical service for fully 2,500,000 people and are expending annually at least $1,500,000. In the country as a whole, in the treatment of patients, millions of dollars are thus spent. Has $100 been spent in studying the results of the treatment, in testing methods, and in framing standards by which to estimate achievements in relation to expense?

OUT-PATIENT EFFICIENCY TESTS

The general method of an efficiency test is to investigate work done in relation to effort expended; or, in other words, to compare results with cost. In the case of an out-patient department this means selecting a group of patients according to any method that does not involve bias, and seeing what happens to these patients as the outcome of their visits to the clinics. While from our point of view the results achieved are primarily medical, we should also regard social results if we are to judge out-patient efficiency aright. In reference to an individual patient this means that he is not to be considered merely as a disease; that is, as a heart, a liver, or

a broken leg, as he sometimes is to a specialist. He must be looked on as a human being, a member of society, and our results are to be judged by the improvement which we produce in his health, working efficiency, or I may say more broadly, his living efficiency as a member of a family.

THE STATISTICAL METHOD

Of two methods here proposed for these studies of efficiency, one, the simpler and the less intensive, is solely statistical. This method proceeds on the assumption that the efficiency of out-patient work bears a relation to the number of visits which a patient suffering from a known disease makes to the clinic. In other words, successful treatment under given clinical conditions would normally require a certain number of visits for each disease; it might be one, it might be twenty; it would vary with the diagnosis. Of course there would also be differences between patients, but if we use sufficiently large numbers to reduce the influence of individual peculiarities, we render it possible to average our figures and secure results of considerable interest.

Tests by this method will indicate both absolute and relative efficiency. That is, they will enable us ultimately to set certain standards to which a clinic devoted to certain diseases should conform if it is to do good work. These tests also enable us to compare different clinical methods or the services of different physicians and estimate their relative efficiency.

To illustrate: In a genito-urinary clinic the records of the new cases of gonorrhea were tabulated for six months, the tabulation being made after the six months were over so that nothing was known about the test during the progress of the work. The number of visits paid by each patient, as shown by the records, which in this clinic are kept by a paid clerk, are given in Table 1. The total number of patients was 450, nearly all of whom had acute gonorrhea.

It will doubtless be agreed that small results can be obtained in a patient with active gonorrhea from a single visit to the clinic, and that if nearly one-half of these 450 patients paid one visit and never came back, there is a serious waste of the physician's time and of the institution's money.

These figures are particularly interesting because in 1902 two of the surgeons then in charge of this same clinic made for a different purpose a study of the treatments for a period of two months,[1] and of 130 patients

TABLE 1.—NUMBER OF VISITS TO A CLINIC BY FOUR-HUNDRED AND FIFTY GONORRHEA PATIENTS

No. of Visits	No. of Patients		Percentage	
1	215		47.8	
2	70	285	15.6	63.4
3	32		7.1	
4	32		7.1	
5	16	80	3.6	17.8
6 to 8	29		6.4	
9 to 12	18		4.0	
Over 12	38	85	8.4	18.8

with acute gonorrhea found that eighty, or 61.5 per cent., paid only one or two visits. This is almost identical with 63.3, the percentage obtained by this study made ten years later. I shall touch later on some probable causes and correctives for this waste. Certainly we should have similar figures from a number of genito-urinary clinics and try every possible method to see if the proportion of wasted effort cannot be diminished. The growing demand for dealing effectively with the problem of venereal disease renders the efficiency of genito-urinary clinics a matter of public importance. They need to be efficient as curative and prophylactic agents, and as safe and sane substitutes for the advertising quack.

Another illustration exemplifies the value of the statistical test in judging relative efficiency. In a clinic

1. Cotton, F. J., and O'Neil, R. F.: Boston Med. and Surg. Jour., 1903, cxlix, 538.

for diseases of the eye, two quarterly services were compared and the number of visits per patient tabulated, similarly, for the two services. Without going into all the details, I will summarize the tabulation as follows:

In iritis cases the average number of visits during one service was 5.8, in the other service 10.6.

In cases of phlyctenular keratitis the average number of visits during one service was 4.7, during the other service 8.5.

In 473 cases representing six of the acute eye diseases including those just named (the cases being almost equally divided between the two services), the average number of visits paid per patient during one service was 2.4, during the other service 4.0. When each of the six diseases is tabulated separately the comparison makes in every case in favor of one service and against the other, the difference ranging from 25 per cent. to over 100 per cent. in the average number of visits paid per patient.

During one service (to illustrate further) 50 per cent. of the patients with iritis paid no more than two or three visits; during the other service 80 per cent. paid more than six visits. We may question whether successful treatment of an acute case of iritis can be given in two or three visits; we may be sure that twice that number of treatments is not too much to insure control of the disease and saving of the eyesight. The figures I have given do not determine the responsibility for the difference in efficiency, but they do raise the question pointedly.

Similar tests, carried out more completely, should enable us to set standards of out-patient treatment for different diseases. Every disease must be tabulated separately because each presents a special medical problem. To secure successful treatment we shall find necessary a minimum average number of visits to the clinic. With the cooperation of a physician in charge of a large children's out-patient clinic, I am now pursuing a series of studies along this line with a view

to ascertaining approximately the number of visits and the amount of time that needs to be spent on the average patient in that clinic to secure good results. These standards will, of course, vary with the diagnosis. As we approximate toward our standards we can constantly be testing our methods of receiving, examining and following up patients to see whether we can thus improve our efficiency in treating a given type of case, or diminish the amount of time required to secure a given result. This standard will give us a check on our methods which is independent of any personal bias on the part of an investigator, and requires only that the record-keeping shall be reasonably accurate.

To summarize: The statistical method of studying the efficiency of an out-patient department is based on the number of visits paid per patient, classified according to diagnosis. It should yield judgments both of absolute and of relative efficiency; it should help us to find points of strength and of weakness, to establish standards of good work, and to test methods of improvement.

THE PERSONAL METHOD

The second method of making an efficiency test I may call the personal or intensive method. According to this plan we interview the patient in the clinic and at home, and obtain facts about his life, his family conditions, etc. We also study the medical records. We visit the patient at home after he has been treated in the clinic and thus have a complete history of the case showing three points: (1) the medical and the social problem which the patient brought with him at his first visit; (2) the diagnosis and treatment which he received; (3) the outcome of this treatment as judged by the clinical record itself and by home visits made after treatment had been given.

I will give a brief account of such a test recently conducted at the Boston Dispensary. It is essential that patients be selected at random or according to a method that does not allow the personal prejudice or interest of

the investigator to have weight. To avoid this, we took for the test which I am about to describe all the new patients who came to the clinics on two arbitrarily selected days. The total number of new patients on these two days was 116. They were questioned at the dispensary in a tactful way by trained social workers.[2] Visits were paid to their homes, in some cases several visits, and the records of their clinical treatment were studied. Such a study yields an all-round picture of what the clinic does for each patient. It not only gives us figures showing the proportion of good and of poor or negative results, but it also fills out the statistics with life and color. By such a method we look behind the scenes and see what really happens on the out-patient stage. There are a number of vexed problems on which such an investigation sheds light. In the discussion of out-patient abuse for instance, we have floods of opinions, but what we really need are *facts* showing the actual relations of the out-patient department to the different social classes, and thus to the community as a whole. An investigation of this kind, presenting us with a cross-section of the work of an institution in its social as well as in its medical relations, is the method of providing us with such facts. I mention this to indicate my belief that this plan of investigation has value as more than simply an efficiency test.

The limits of this paper do not permit entering into these broad problems. As for the results of treatment, this efficiency test indicated, briefly, that about half of the work was successful and a third of it was dead waste. More exactly, 57 per cent. of the patients were cured, relieved or substantially improved as a result of coming to the clinics. Results were pending or indeterminable in 9 per cent. of the cases, while in 33.3 per cent. the treatment was entirely wasted, either because the patients

2. The inquiry blanks, etc., used in this investigation will be gladly sent by the author to any physician or superintendent of a medical institution.

paid only one visit without any definite result or because they ceased to return before treatment could possibly be completed.

The 33.3 per cent. waste effort is a minimum figure for the group of patients with which this investigation dealt. I do not, of course, regard such a figure as of general application but the percentage is perhaps not remarkably high. Should not similar tests be made often; in fact, be carried on regularly in every large out-patient department?

I might suggest that this same method could be applied to the discharged patients of hospitals. Should we not find it of value to know the proportion of patients who suffered relapse or who showed no really permanent benefit from the hospital care, either because they were discharged too soon or because the permanent causes of their illness lay in the conditions of their homes or of their daily work.

HOW TO IMPROVE OUT-PATIENT WORK

If we are to have tests of efficiency and if as a result we find a large percentage of medical waste, how shall we improve the service and reduce the waste? I believe that the general conditions of efficiency in out-patient service are five:

1. The skill and interest of physicians.

2. The technical equipment for medical and surgical work.

3. The character of the medical organization, arrangement of services with reference to the number of patients to be treated, and the general administrative system of the institution as a whole.

4. The extent to which the clinics are provided with an organized paid service, including nurses, social workers and clerks.

5. The extent to which the social problems of patients are dealt with in a definite way.

Each of these conditions of efficiency must be studied separately. In recent years much attention has been given to the first two conditions and a good deal to the third, while the fourth and fifth, particularly the fifth, have been in the main neglected.

Different institutions are trying interrupted and continuous services, small staffs and resident staffs according to various plans for out-patient work. Which systems give the best results, not only in medical or administrative convenience, but in the treatment of patients? Only impersonal efficiency tests can answer.

The circumstance that most diminishes the efficiency of an out-patient department is the failure of patients to return for treatment. "He never came back" is the common complaint. To meet this we must have a follow-up system. Improved records which tell automatically when patients should return are valuable aids here, but social workers with a medicosocial training are still more helpful. Under the guidance of the physician they follow up the cases, assist in carrying out treatment and in seeing that patients come back to get treatment. To be of maximum service in this way the social worker must be regularly in the clinic instead of merely taking such patients as are specially referred to her. The latter has been the practice of most social service departments. Almost every case of tuberculosis, syphilis, anemia, and a long list of other diseases is a social problem as well as a medical, and neither problem can be solved without the other. The physician has, as a rule, neither the training nor the time to grapple with the conditions of poverty, industry and personality which lie behind a large proportion of the diseases of out-patients. Unless they are dealt with, however, neither patient nor physican can expect to get satisfactory results and there is a good reason why the patient does not come back.

But investment in the paid services of social workers and clerks, as tools of efficiency, is expensive. The extent to which it is worth while, even considering the expense, can be determined in one of two ways: (1) by

using our preconceptions, and guessing; (2) by employing impersonal methods and making efficiency tests.

A system of social work, supplemented by some improvements in record-keeping which required a paid clerk to carry out, was recently established in a children's clinic treating an average of fifty patients a day. In three months this system resulted in raising the average number of visits of patients from 2.9 to 4.7 with very positive testimony from the medical men that they were getting more out of the clinic from the professional standpoint. What the patients got is another matter, but we may be sure they did not get less.

I regard the efficiency tests described in this article as merely a beginning and as experimental, and I present them not as indicating final results but to suggest methods by which out-patient departments may subject their own work, as they should, to continuous and impersonal self-criticism. Doubtless other and better methods will be devised. Surely such tests should be conducted not sporadically but as a matter of routine in large out-patient departments and hospitals generally, so that we shall be able to make comparisons and to establish standards which we lack to-day.

The growing public demand for more and better out-patient work cannot be met by institutions unless they raise large sums from private philanthropy or from municipalities. In going to charitable givers, to city councils or to legislatures for these increased funds we need to back our arguments with figures as well as hopes. Efficiency tests supply the rational basis on which out-patient departments may progressively develop themselves as more and more effective agencies of the public health.

ABSTRACT OF DISCUSSION

DR. MILNE B. SWIFT, Fall River, Mass.: In the surgical out-patient department of the Elizabeth Stevens Clinic of Union Hospital, in Fall River, we began about two years ago to institute these efficiency tests of which Mr. Davis has spoken. We have developed a system of continuous efficiency

tests, through which we are able to draw some very conclusive deductions as to the value of these tests to ourselves and to the patients.

We have a population of 120,000; one-fourth of these are operatives. Our out-patient work deals chiefly with accidents to this population. These accidents, though not serious to life, do greatly diminish the efficiency of the industry and because the manufacturers are interested in their employees, they contribute beds to the hospital, and insist that in return their injured shall be taken care of at the hospital. It was not until we instituted these efficiency tests that we were able to do thoroughly satisfactory work for ourselves, the patients and the industry. The treatment of the various classes of injuries has changed radically, and we find that the patients are getting better much quicker, and that the efficiency of the patients and the industry is increased. This we consider to be entirely due to the tests.

MISS M. E. MCCALMONT, Brooklyn: In occupational diseases, is not a concerted effort made to divert the patients to other occupations in dispensary cases?

DR. JOHN ALLAN HORNSBY, Chicago: I am afraid there is no one here who can answer that question. In Chicago we have two large bodies that do a great deal of work, the United Charities and the Jewish Charities. Our hospital is the Jewish Hospital; and we have something in the neighborhood of 60,000 patients from the ghetto district visiting the dispensary. We do make an effort to follow up people suffering from occupational diseases and to prevent them going back to disease-inducing occupations. We try to get them out of the lead and paint factories. The patients with incipient tuberculosis we send to our tuberculosis hospital until they are well and then we try to get them other occupation and divert them from their former occupations. I have nothing to do with this work except as head of a large hospital, which eventually gets these patients.

MISS M. E. MCCALMONT, Brooklyn: I became interested in the subject because of interest in the child-labor question. Children in getting their working papers should be definitely forbidden to go into occupations for which they are physically unfit, and it seems to me a very important phase of social work in both dispensary and hospital that patients about to be discharged should have specified to them the occupations in which it would be distinctly dangerous for them to engage.

THE RELATIONS OF THE HOSPITAL TO CORPORATIONS INTERESTED IN PATIENTS

S. C. PLUMMER, M.D.
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Corporations may have no souls, but they have policies dictated by the individuals who control them. These policies, as far as they touch hospitals and the medical profession, reflect the attitude of the corporations toward their employees. Those corporations which regard the employee as a means of contributing to their profits and give no consideration to his deserts as an individual, which work him to the limit of endurance during his best years and throw him into the discard when, as a result of his hard work, his efficiency has diminished, will treat the hospital in a niggardly and unfair manner. On the other hand, those corporations which deal with their employees in a spirit of fairness will show a spirit of justice in their relations to the hospital. From the standpoint of the hospital, there are good corporations and bad ones.

The employing corporation is certainly under some moral obligation to the employee, and this obligation is much stronger than the obligation of the hospital to that employee, which latter is only the slight obligation which the hospital owes to that employee as a member of the community at large. Still many corporations deny all moral obligation to the injured employee, and cheerfully foist on the hospital and its attending staff the entire responsibility for the care of the patient, paying nothing unless forced by law to do so. The patient is, as a rule, absolutely unable to meet the expense, and litigation is

trying and, in the main, unprofitable, so that the hospital and its staff members accept the imposition and assume the obligation which morally belongs to the employer.

The corporation which directly refuses to meet its obligation to its injured employee by paying his hospital expenses is no worse than the corporation which virtuously refers the hospital management to the liability company in which it is insured. These liability companies make money by making the cheapest settlements possible; they have no direct obligation to the employee, such as the employer has, and every hospital bill they can avoid paying is clear gain. Occasionally they may agree to pay ward rates to the hospital, but when the staff surgeon presents his bill, he is informed that to them he is an unknown person.

It must be said for the ungenerous corporation and the liability company that legally they are not responsible to the employee in the great majority of cases, the common law giving them the defenses of assumed risk, contributory negligence and the negligence of fellow-servants. Morally, the present tendency of public opinion is to hold them responsible.

A somewhat higher moral development is shown by the corporation which, while expecting to have its employees receive hospital care without directly compensating the hospital, makes an annual contribution to the hospital in the form of a gift. Although such a corporation gets credit for being philanthropic, the gift is really a most excellent investment from a business standpoint, as in return for the gift the corporation receives in hospital care and surgical attention many times the value of the amount expended. The staff surgeon does not render a bill, for, having the interests of the hospital at heart, he does not wish to estrange the institution's philanthropic supporter.

On a par with the last type of corporation, or a little above it, is the one which regularly pays ward rates, but no surgical fees.

I now come to speak with pleasure of the exceptional corporation which treats both the hospital and the surgeon with the consideration due them. Waiving the question or legal liability, such a corporation assumes the expense of surgical care of all its employees injured in discharge of duty. Such a corporation is guided by high ideals as to its moral obligations, and at the same time finds that such a rule of conduct puts it on better terms with its employees, and is on that account good business policy. It is my good fortune to be associated with a corporation of this class. Injured employees are treated as individuals worthy of consideration, settlements are made with them on a just basis, and hospital and surgeons' bills are settled as a matter of routine. Such corporations may have their own surgeons and may stipulate that they will pay only for services rendered by their regularly appointed surgeons, but they never make their employees objects of charity.

No corporation ought to shift on the hospital the expense of caring for its injured employees, and the hospital management should see to it that they do not do so. The attending surgeon should not be forced, by reason of his position, to treat as charity cases the patients of a prosperous corporation. The practice in the past has been for the struggling hospital and the only moderately prosperous attending staff to furnish the great bulk of the charity, while the corporation, often a very rich one, contributed nothing or at most a disproportionately small share. A more equitable distribution among the three interested parties should be insisted on.

This declaration is not in advance of the public opinon of the day, as shown by the fact that in a number of states laws have been passed requiring employers to pay a certain amount of hospital and surgical fees on account of injured employees, and depriving the employer of the common-law defenses of assumed risk, negligence of

fellow-servant and, as far as hospital and surgeons' fees are concerned, of contributory negligence. The national Senate has passed a bill of similar provisions to apply to employees engaged in interstate commerce, and this will undoubtedly become a law. These laws will educate employers as to the equity of the situation, and also provide against shifting the responsibility on a liability company, except by making such company assume all the obligations which the law requires of the employer.

The hospitals, in their turn, ought to assist the corporations by keeping their case records fully written up. This is especially true in states where employers' liability laws are in force, and in dealing with interstate employees, if the bill passed by the national Senate becomes a law. Interns do not realize how every point bearing on an injury should be noted in a case which is to come to adjudication. In the case of several injuries, the minor ones should not be overlooked in the records. Too often the intern is busy with other things and puts off writing up his cases, or does this in an incomplete manner. Where liability laws are in force these accurate records are equally as important to the employee as to the corporation employing him. The hospital should also see to it that at the time of discharge from the hospital a complete and accurate statement is made of the patient's condition. The perfunctory statement that he is "improved" or "cured" will not suffice.

As to the visits of claim agents or other representatives of the corporation, I shall leave it to my legal confrère to tell you as to their permissibility under the law, but I shall state my observation as far as it relates to the corporation with which I am associated. I find that the injured employee is glad to see the representative of the claim department and takes his visit as evidence that the company is interested in him. As the claim department never takes advantage of the injured employee's predicament, and does not attempt to negotiate a settlement

until he is on the road to recovery, I can see no impropriety in these visits. If a corporation not accustomed to fair dealing were concerned, it would be a different matter.

What of the visits of the personal-injury lawyers? Let me quote from a recently published interview with President Taft, in which he states the benefit to be derived from the proposed national workmen's compensation law:

> Under the common-law principle now prevailing in this country, employees frequently recover from the railroads large verdicts for damages, but after counsel fees are paid, experts compensated and other costs deducted, the beneficiary does not receive on an average over 50 per cent. of his compensation. The payment of the judgment is often long delayed through appeals to the courts, and the employee finds himself in hard straits and his family suffering.

Any one who has been in position to observe the outcome of cases which have fallen into the hands of the personal-injury lawyer can confirm the President's declaration. Moreover, these lawyers have frequently been known to inveigle an injured man to sign a contract to pay them a large percentage, usually one-half, of what he recovers, when his condition is such that the claim agent of a self-respecting corporation would be ashamed to broach the subject of settlement. Again, I do not know the law governing such visits, but from a moral standpoint I ask, Ought not the hospital authorities to forbid the visits of these self-seeking individuals?

As to allowing representatives of corporations to consult the hospital records of injured employees to assist in effecting a settlement or defending a suit for damages, it seems to me that no man's just rights are in any way trespassed on in bringing out the truth, and I assume that the hospital records contain nothing but the truth, as I cannot imagine any hospital management allowing its case records to be falsified in the interest of either employee or employer. In my opinion, both the corpora-

tion's representatives and those of the patient should have access to the records.

As to the use of the records by a patient for the purpose of bringing suit for malpractice, we know that the majority of such actions are brought through mercenary motives or through ignorance, and have no just foundation, as is evidenced by the fact that many such suits are brought against the ablest practitioners; consequently, the person bringing the suit deserves no assistance or encouragement. I do not believe, however, that the contents of the hospital record would assist his cause.

All well-managed hospitals try to prevent grossly incompetent or morally unfit practitioners from attending cases under their roofs. Occasionally one of these slips in undiscovered, and when this occurs I cannot see how the hospital owes him any protection.

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THE LEGAL ASPECTS OF THE RELATIONS OF HOSPITALS TO CORPORATIONS INTERESTED IN PATIENTS

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It has often been said that no two doctors can diagnose a case alike, and probably the same thing is true of lawyers. I have even heard it said that no one lawyer can state the law alike twice. Consequently, in a twenty-minute endeavor to discuss the above subject, I shall confine myself to a few general propositions.

When some poor unfortunate is struck by a street-car, or steps in front of an automobile, or stumbles on a loose board on a factory floor, and the victim is brought to your hospital for six weeks' stay, some interesting problems not altogether medical are likely to develop. Unless your hospital is a public one, that is, maintained by the state, county or city, the injured man has no legal right to demand admittance. Your hospital does not turn him away, however, and having admitted him, you must treat him to the best of your ability, and cannot discharge him until he is able to leave without danger to himself. Toward the end of his stay the street-car company, or the casualty company in which his employer was insured, disclaims liability for the treatment, and you find that the injured man has no money, cannot pay his hospital bills, and probably for months to come will be unable to earn even a living. At the same time he wants to consult your records in a suit he intends to bring on account of his injuries, and forbids you to dis-

close information concerning his case. On the other hand, the casualty company or the employer wants your records and asks you for information to enable it to defend the suit, and sends its adjusters to visit the patient and perhaps talk settlement. Occasionally a lawyer calls on the patient to get him to sign a contract for prosecution of the suit. As proprietor of the hospital, what are your rights and your obligations to each of the parties involved in this interesting state of affairs? I use the words "duty" and "obligation" purely in a legal sense.

I. THE DUTY OF THE HOSPITAL TO THE PATIENT

If the hospital is a charitable one, that is, one not operated for profit or private gain, direct or indirect, its sole duty to the patient, with respect to the treatment furnished, is to use reasonable care in the selection of the physicians and surgeons, the nurses and employees whom it assigns to treat and attend the patient. In other words, when the hospital is a charity, it is not liable for the negligence of its staff and employees when it has used reasonable care in their selection. I cannot give you a better statement of the law on this subject than the words of the supreme judicial court of Massachusetts in a case brought by a patient of the Massachusetts General Hospital (a state institution, maintained in part by private donations) to recover for negligent treatment:

> The liability of the defendant corporation can extend no further than this; if there has been no neglect on the part of those who administer the trust and control its management, and if due care has been used by them in the selection of their inferior agents, even if injury has occurred by the negligence of such agents, it cannot be made responsible. The funds instructed to it are not to be diminished by such casualties, if those immediately controlling them have done their whole duty in reference to those who have sought to obtain the benefit of them. There was no attempt to show that the trustees had in any respect failed in the performance of their duty. If they had made suitable regulations, had selected proper persons to fill the position of surgeons, then

whether those persons neglected to perform their duty, or whether another person, as the house pupil, not selected for the office of surgeon, assumed without authority to act as such, and injury has thus resulted, the plaintiff has no remedy against the corporation.—McDonald v. Massachusetts General Hospital (1876), 120 Mass. 432.

And it makes no difference that the patient is a paying patient. The supreme court of Michigan has expressed the law in this way:

The fact that patients who are able to pay are required to do so does not deprive the defendant of its eleemosynary character, nor permit a recovery for damages on account of the existence of contract relations. The amounts thus received are not for private gain, but contribute to the more effectual accomplishment of the purpose for which the charity was founded. The wrongdoer in a case of injury, but not the trust fund, must respond in damages. This proposition seems too clear to require argument or authority. It is not, however, inappropriate to remark that better facilities for the care, cure and treatment of the sick, both of the poor and of those who are able to pay, are secured by the establishment of hospitals like that of the defendant. These facilities are increased by the receipt of money from those who are able to pay in whole or in part for the benefits received. Several hospitals of this character exist in this state, founded by private munificence. Obviously they would not have been founded if their donors had known or even supposed, that their charitable purposes might be thwarted by the verdicts of juries for the negligent acts of those who must necessarily be employed in the execution of the charity.—Downs v. Harper Hospital (1894), 101 Mich. 555; 60 N. W. 42; 25 L. R. A. 602.

When the hospital is operated for profit, it, like any other business enterprise, is responsible for the negligence of its employees, and must answer in damages for all injuries caused thereby. It assumes such liability, however, only in respect to those things which it contracts to furnish. If it undertakes to furnish medical or surgical attention it must do so; but it owes the patient a legal duty only by virtue of its contract. The duty or the absence of duty on the part of the hospital has

no bearing on the liability of the physician or surgeon to the patient whom he undertakes to treat. The doctor always is under a legal obligation to the patient, and must pay for his mistakes.

The foregoing principles have been applied to the hospital or relief departments of railway and other companies. When such a department is supported by voluntary contributions from the employees and the company, and is not conducted for profit, it is held to be a charity, and the company's only duty is to use reasonable care in the selection of the physicians and surgeons who conduct it; whereas, if it is conducted for profit, the courts hold that it is a mere department of the company concerned.

With respect to the inspection of its records, the hospital owes no *legal* duty to the patient. The records are the property of the hospital; and while professional ethics might suggest it as a proper course, yet a refusal to permit a patient to inspect the records of the hospital certainly would not deprive the patient of any legal right, or violate any legal duty on the part of the hospital. I shall mention later the use of these records in litigation.

II. THE INTEREST OF CORPORATIONS IN PATIENTS

The word "corporation" is used in the title of this paper primarily because most of those who have an "interest" in patients in hospitals are corporations; but there is no difference in principle between a corporation and an automobile owner whose car strikes an absent-minded pedestrian. Apart from the ordinary sympathy for the injured, the "interest" referred to is merely interest in the possibility that the victim of the accident may collect a judgment for damages. Every accident carries this possibility, and the large corporation is most frequently mentioned in this connection because its manifold activities make the sum-total of its accidents a matter of great moment. We speak, therefore, of corporations.

In a strict legal sense, the large company whose employee is injured, or the street-car company whose car injures a passenger or a pedestrian, owes absolutely no duty to the injured one in the way of medical treatment or attention. Common humanity may require first aid to the injured, but the law does not make a legal obligation of it. The hospital may not look to the corporation for payment, but to the patient. If the injury occurs through negligence the law gives the patient an action for damages, but does not require the party at fault to see to it that a physician is called, or that the victim is sent to a hospital. In case damages are recovered for the injury, one element of the damages is the amount expended by the patient for medical treatment and attention; and the hospital by legal action may see that its bills are paid out of the judgment, but has no right to sue the corporation for them.

Many large companies have gone beyond their bare legal necessities, however, and established hospital and relief departments. In some cases a deduction is made from the pay of the employee for the purpose of the hospital fund, or for the payment of sick benefits. In some cases the company contributes, in others not. Whether or not the company under such circumstances is bound to furnish medical and surgical attention to an injured employee depends on the terms of the arrangement by which the relief department is supported. The tendency of the courts is more and more to regard the relief department as an agency of the company, and to hold the company liable not only for the expenses of the treatment, but for the negligence of the physicians and surgeons employed in the treatment. The workmen's compensation acts recently enacted in various states also require the employer to furnish necessary medical attention, medicines and hospital services either for a fixed period after the injury, usually two weeks, or to any amount not exceeding a fixed sum, such as $200. In some cases the required treatment for which the employer is liable is limited both in time and the amount.

III. RELATIONS BETWEEN THE COMPANY AND THE HOSPITAL

From Dr. Plummer's paper in this symposium, I take it that to the hospital the most interesting aspect of this relation is the question whether it will be paid by the company for the services rendered the patient. Here the strict interpretation of the law comes in, and it follows from the preceding section that the company or corporation interested, financially or otherwise, in the condition of a patient, is not liable to the hospital for treatment given the patient unless it has contracted, expressly or by implication, to be responsible therefor. I say by implication, because in a state where a workmen's compensation act places on an employer the duty of providing medical and hospital services for an injured employee, the fact that the employer sends an employee to your hospital and permits you to treat him would raise an implied promise on the employer's part to pay for the treatment; but, in the absence of such an obligation, the fact that the employer sent an injured man to you for treatment would not alone create any obligation on his part. Indeed, in many cases in which agents of railway corporations have made express contracts with hospitals for the treatment of persons injured, the courts have refused to hold the company liable for surgical and hospital bills because of lack of authority in the agent to make such a contract. You may be interested in the reasoning of an early Kansas case, which held that the division superintendent of a railroad had no authority to employ a physician to treat passengers injured in a wreck where a train was blown from the track.

Probably there are but few instances of injury to passengers riding on railroad trains where negligence or fault cannot be traced to the railroad company; but, in cases where there is no such negligence, no responsibility can attach to the company, and no recovery can be had for the injuries sustained. It does not insure the lives or health of those who take passage on its trains. The most that can be required is that it shall use the highest care in the convey-

ance of the passenger to his destination. There is no more obligation resting on the company to provide medical care and treatment for passengers unavoidably injured than for passengers who become sick during the journey over the road. In either case the full measure of the duty of the company is to carry the passenger, in the condition in which he may be found, to his destination. Beyond this the company has no interest in the passenger, and therefore has no such concern for his health and soundness that it has in its employees who may be injured while in its service. To furnish medical care and treatment for passengers in such cases would be a mere gratuity and the funds of the corporation cannot be thus dispensed by the division superintendent without authority from the board of directors. . . . Perhaps it is true that in certain emergencies the superintendents of railroads are authorized to provide medical and surgical care for injured passengers and to bind the railroad companies for the payment of such services, and it is probably well that such provision should be made; but in those cases it will not be difficult to show the authorization, or a recognized custom or usage, of the company to furnish medical attendance to passengers injured by inevitable accident. In the absence of testimony of express authority from the company, or of a custom or usage from which authority might be implied, the company cannot be bound by such contracts made by the superintendent or his subordinates. If the injury to the passengers resulted from the negligence of the carrier, other considerations would enter into the case which might warrant the implication of authority in the superintendent or some general agent of the company to provide medical attendance and entertainment for them; but, whatever might be the rule in that case, we are of the opinion that there is no such presumption of authority in the division superintendent where the passengers are injured through no fault of the company.—Union Pacific R. R. Co. v. Beatty (Kansas, 1886), 10 Pac. 845.

The tendency of the courts is to get away from these early cases and, regardless of the company's negligence, to hold it liable for services given at the request of whatever employee happens to be in charge at the scene of the accident, at least until the surgeon has had an opportunity to communicate with the officers of the company, after rendering emergency treatment, to obtain authority for further treatment. This authority may be implied

from the failure of the company to disclaim responsibility after such a request.

While the foregoing is, I think, a fair statement of the law, good business management, which is not altogether undesirable in a hospital, would seem to me to require the hospital to take the position that when services are rendered to an injured person at the request of any agent of a corporation or company, the latter is responsible for all treatment given until the hospital has been notified to the contrary. In other words, you should assume that when a patient is sent to you the party sending him is responsible for your bills. You can compel the patient to pay for his own treatment if he has the means; but if he has not the means, you do not want to have the company disclaim responsibility too early.

While you cannot hold the company for your bills unless you have a contract with it, the law indirectly comes to your aid, and places in your hands a powerful and persuasive argument. I mean your hospital records.

As stated above, the hospital records are the property of the hospital, just as the physician's records are his own property. In most cases these records are of vastly more importance to the company defending a claim than they are to the man who claims to have been injured. The plaintiff can go on the stand and make all sorts of extravagant claims as to his injuries, and the jury has a right to consider these statements. He is not even required to have his statements corroborated by his physicians — his neighbors and friends can testify as to his healthy appearance and vigor before the accident, and his generally poor condition afterward. This usually is enough to get a fair-sized verdict. The defendant, on the other hand, needs all the evidence possible, and your hospital records are vital to its case. In all of our states, so far as I have been able to ascertain (except in actions arising under the various workmen's compensation acts referred to above), the defendant has no way, in litigation between itself and one of your patients, to make

you produce your hospital records before trial. In other words, the defendant cannot have the benefit of your records in advance of the trial unless you are willing to permit it.

The same thing is true in a number (about half) of our states with reference to the testimony of physicians and surgeons, by virtue of statutes making communications to a physician or surgeon privileged, and providing that no physician or surgeon shall testify thereto. This privilege usually extends only to such communications as are necessary to enable the physician to treat the patient, but in all states where it exists it effectually bars the defendant from putting medical testimony on the stand unless the plaintiff waives the privilege. It is one of the anomalies of our system of legal procedure that a plaintiff suing to recover for personal injuries can, if he desires, exclude from consideration the most valuable and, in most cases, the only trustworthy evidence as to the nature and extent of his injuries, but about half of our states permit it. An excellent feature of the workmen's compensation acts in states where the privilege exists is that they provide for the examination of the injured employee at stated intervals, and provision is made whereby the result of these examinations can be introduced in evidence.

The plaintiff may waive this privilege, either by an express contract (as in an application for life insurance or a contract for employment) or by introducing the physician's testimony as part of his own case. In New York he can waive it only expressly on the trial. In states where the privilege does not exist, and in cases in which the plaintiff waives it, the defendant may subpœna any physician or surgeon who has treated the plaintiff, and probably also may compel him to produce his record of the case; but the defendant has no means in advance of the trial of determining whether this can be done or not, and no defendant wants to go to trial in a personal-injury case without knowing pretty well what

the testimony is going to be. It therefore is vital to the defendant to consult the physician's records, and, as there usually is no way he can force the physician to permit it, it ought to be quite a convincing argument on the subject of the payment of the hospital bills.

The privilege above referred to does not in any state, so far as I know, extend to hospital records, as distinguished from physician's records; but while in most cases the defendant can require these to be produced at the trial, he would not like to take the risk of doing so without a previous inspection of them.

On the other hand, the law does not forbid you, if you see fit, to disclose to the employer information concerning the injured employee, or to the railway company concerning the injured passenger. This would seem to be a matter of contract between the hospital and the corporation interested. Certainly no honest patient can have anything to fear from it; and the dishonest patient is not entitled to ask you to aid him in his trickery. This is true even though the patient declines to permit the corporation to pay his hospital bills, and forbids the hospital to disclose his record to the corporation. The patient may always introduce the testimony of the physician in court, and may compel the hospital to produce the record of his case; but if the hospital, by reason of a contract with the corporation or for any other reason, desires to disclose privately to the corporation (not in court) the record of any patient, the patient has no way to prevent. An effort to prevent would certainly cast doubt on the good faith of his claims of injury.

Except in litigation between the hospital and the patient, the patient cannot force you to permit him to consult your records of his case. In the event of a suit on account of his injuries, he usually can have the records produced in court, if necessary, but that is the extent of his power.

The question whether you will permit claim agents, adjusters or attorneys to consult the patient while he is

in your hospital is one with which the law does not concern itself. Certainly it is your duty not to allow the patient to see anyone until his condition permits; but while he is convalescent and can talk to visitors, the question whom you shall admit is one within your exclusive province. So long as he is a patient in your hospital, his visitors will have to be subject to your control. If a lawyer wants to consult the patient with a view to taking his case against the corporation, or if the adjuster wants to talk settlement or get a statement about the case, the only legal question that need bother you is whether the patient is in fit condition to see the visitor.

In this connection I might say a word from the viewpoint of the company which is in any way interested in your patient. What the company wants is a full, complete and accurate report of the patient's injuries. In spite of the popular outcry about corporations, I know of two or three companies of substantial size whose desire it is to accord to every injured employee or other person for whose injuries it may be responsible a fair and speedy reparation, so far as money will compensate, for all the injuries sustained. A misleading or inaccurate hospital or surgical report is worse than none. An accurate one is a help both to the patient and to the corporation, as well as to the hospital. Although the interests of the patient and the corporation may conflict, when the hospital is conducted in such a manner that both parties have entire confidence in its management, it can offer a great aid to the corporation in the fair and just handling of its injury cases, and to the patient in seeing that he gets fair treatment from all parties who have dealings with him.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DR. PLUMMER AND MR. BELL

MISS M. E. MCCALMONT, Brooklyn: A question came to my mind as to whether a hospital receiving state aid should not be allowed to present a bill to a corporation for services

rendered its employees. For instance, a man injured in a factory or foundry was sent to a Philadelphia hospital with instructions that only first relief be given. It soon developed that antitetanus measures were indicated, and the necessary number of injections were given. The company was asked to reimburse the hospital for the mere cost of the treatments, about $37. This the company refused to do. According to the laws of Pennsylvania, the hospital receiving that state aid could not force the collection of the bill.

MR. MCCLAIN, Philadelphia: The particular case to which Miss McCalmont refers was that of a young man who was hurt in a weaving-mill and was sent to the Samaritan Hospital. The superintendent of the establishment directed us first to give him certain treatment, and to do that we placed him in the semiprivate ward. The physician discovered that antitoxin serum was necessary. The superintendent of the factory could not be consulted, as it was Sunday, so we ordered the antitoxin; but the superintendent of the factory refused to make his company responsible for the expense incurred and as yet nothing has been decided.

DR. JOHN O. SKINNER: Washington. D. C.: The rulings of the courts vary with regard to hospital records and patients. In the District of Columbia a judge ruled that a record of our institution could be used as evidence, and our records were subpœnaed in a certain case. The point was made by the plaintiff's counsel that the hospital record was not an official record in a legal sense and was used by a visiting physician only as a memorandum and for his information. The court sustained this view. The corporation could not get access to it. It is a ruling in our hospital that no record is allowed to be inspected without written consent of the patient or the knowledge and consent of the attending surgeon in the case. I consider these records as sacred as if they were made in a physician's office. Now, Mr. Bell maintains that the plaintiff can in Chicago use the records and can have the records subpœnaed and used, whereas the defendant is excluded from them. But assuming that to be the ruling of the Chicago court, why could not the counsel for the defendant sue the hospital for damages and thus get the records before the court as the plaintiff? This would be a roundabout way of doing it; and, on the other hand, the judge might not allow it to be used after the record is produced.

MR. F. S. BUNN, Youngstown, Ohio: We had a very interesting case recently of this kind in the Youngstown Hospital. We had a case in which both tubes and ovaries were removed from a woman in September. The following July this woman was ejected from a street-car and she claimed this caused a miscarriage. I secured legal advice as to whether I could be forced to take the records in the case into court, as I had

refused to do so (just as Dr. Skinner did) without the consent of the physician and patient. The attorney said I should take the records into court and leave it to the presiding judge as to whether I should answer when a question was put to me. He ruled that we had a right to introduce our records in the case, and we did, showing that the operation had been performed, and the case stopped right there.

Another point is that of admitting visitors to a patient. We have a hospital that treats, each year, from 1,400 to 1,500 corporation employees, for which the corporation pays. The objection has come up that we should exclude from the hospital at all times men who are in the habit of following patients there in order to get a suit against the company. Our legal advice in this respect has been that inasmuch as we publish a "visiting hour" to the public, we have no right to exclude from the hospital any one the patient wishes to see, provided his physical condition is such that he may receive visits.

DR. J. O. SKINNER, Washington, D. C.: In connection with a matter of this kind, if the physician attending the patient is available, why should not his testimony be taken before the hospital records are reached? It appears that the court will sustain his refusal, on the ground of "privileged communication," to give any information concerning the case. In other words, they want to get from the hospital records certain information and thus make the hospital divulge information which it obtained in confidence.

MR. F. S. BUNN, Youngstown, Ohio: Both the superintendent of the hospital and the surgeon were subpœnaed in that case. They admitted all the evidence of both the surgeon operating and the records.

DR. JOHN ALLAN HORNSBY: This is a large question, in which many interests are involved and much discretion has to be used. For instance, I was visited by a member of the City Attorney's Department of Chicago who wanted to see the record of a patient who was suing the city for personal injury. I declined to show the record or to allow the use of it without the order of the patient, on the ground that the patient had sacred rights in the hospital. The city counsel then said that he did not want to violate any of the ethical laws I had brought up, but asked me if our position would still be maintained if he could demonstrate to my satisfaction that this patient was attempting fraud. I said that if he could demonstrate that it would put an entirely different face on the matter, but that I would have to be the judge. He submitted evidence, showing that suit had been brought against four corporations within three years by the same patient, the allegations being the same in each case. I looked over the record and found he had been in the hospital twice before—once five years ago for a disease that had involved

the limb which had been injured. A year after being in the hospital he brought suit against a street-car company for this accident and it was thrown out of court, but he kept bringing suit and finally he brought a suit against the city. That is only one phase of the case. We must settle each case separately and while we have a policy and stick to it always, the applicant for the record has a sacred right; and if I am in doubt I call on our attorney, or the good people of our board to decide for me.

DR. D. S. FAIRCHILD, Clinton, Iowa: The fundamental thing in this whole question is the character of the records made in the hospital. I have had the opportunity, in court and out of court, to examine the records of hospitals that have been produced. Most of these records are of little value because they are not very well kept. I believe that this is true not only of hospital records but of physicians' records. We have had to deal with corporation cases and all class of cases treated in hospitals, and where the work was recorded in a thoroughly scientific way, the records were of great value. Apparently it is often difficult to answer these questions as to the experience of hospital people because it does not appear that records were kept that would show what became of these patients and what the results of treatment were. I suppose that it is one of the purposes of this section to discuss and work out plans which shall overcome the difficulties that appear to arise from want of careful record-keeping of cases.

DR. SAMUEL C. PLUMMER, Chicago: What Dr. Fairchild has just said about care in keeping records complete is one of the most important propositions this section has before it. It is important to keep records in cases subject to employers' liability laws, because the compensation depends on the patient's condition. The interest of the corporation and the interest of the patient in the records should be equal, and the records should be complete so that they can arrive at an equitable certainty. As Mr. Bell says in his opening paragraph, in different localities different judges rule differently, and I am glad we have had some different decisions called to our attention.

THE RELATIONS OF THE CIVIL HOSPITAL TO THE MILITARY ESTABLISHMENT IN TIME OF PEACE; IN TIME OF WAR

CHARLES RICHARD, M.D.
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The policy of the people of the United States has always been opposed to the maintenance of a large standing army. Our isolated position at a comparatively great over-sea distance from other world powers, our aloofness from international politics prior to the war with Spain, and the faith of the people in our patriotism and national courage as military assets have contributed to the continuance of this policy. Our military establishment has consequently not expanded in the same ratio as our population, or kept pace with the evolution of our institutions.

The civil hospital is now no longer an establishment merely for the care of the sick and injured, but has become in addition a teaching institution with a staff of men eminent in their respective domains, who are actuated by the spirit of progress, and whose work and coordinated experiences are directed toward the betterment and happiness of the race. It is such an ideal that I have in mind in speaking of the civil hospital in this connection.

The land forces of the United States consist of the regular army and the militia of the several states when called into the service of the United States. As the organized militia is subject to national service only when necessary to execute the laws of the Union, suppress

insurrection and repel invasions, the Regular Army constitutes the land forces in time of peace. The authorized strength of this force at present is approximately 87,000; the medical department organization of this force comprises the Medical Corps, with an authorized strength of 445 officers — there are at this date about thirty-five vacancies in the lowest grade — the Hospital Corps, with an authorized enlisted strength of 3,500, the Medical Reserve Corps, active list, of about 120 officers, the Dental Corps, and the Army Nurse Corps, female.

GENERAL DUTIES OF ARMY MEDICAL DEPARTMENT

The medical department is charged with the duty of investigating the sanitary conditions of the Army and making recommendations in reference thereto, of advising with reference to the location of permanent camps and posts, the adoption of systems of water supply and purification, and the disposal of wastes, with the duty of caring for the sick and wounded, making physical examinations of officers and enlisted men, the management and control of military hospitals, the recruitment instruction and control of the Hospital Corps and of the Nurse Corps, and furnishing all medical and hospital supplies except for public animals (U. S. Army Regulations).

For many years prior to the war with Spain, the greater part of our little Army was scattered in small bodies at frontier stations, for the protection of the outlying settlements against Indian raids. Under such conditions of service, the medical officer rarely came in contact with his colleagues in civil life, and only under exceptional circumstances into touch with civil hospitals or medical societies. Frequently he was the only physician within many miles of his station, and while such isolation appears to offer but slight incentive to professional advancement, it cultivated self-reliance, and for those who were studiously inclined, offered opportunities for study. It was under such circumstances that Beau-

mont of our army made his investigations on Alexis St. Martin, and gave us our first scientific knowledge of the physiology of digestion; and that Laveran of the French army made his investigations on the blood in malaria which led to his discovery of the parasite of that disease.

In more recent years, with the disappearance of the frontier and the settlement of the Indian question, troops were concentrated in larger bodies nearer cities, and the medical officer came into closer relationship with his colleague in civil life, and with the civil hospital. It then became possible to station a few officers for limited periods in the larger cities, where they could take advantage of the clinics, laboratories and other facilities of the civil hospital, and through the medium of medical societies they came in contact with civilian members of the profession.

ACHIEVEMENTS OF THE MEDICAL CORPS

At the outbreak of the war with Spain, our peace establishment, with an aggregate strength of 28,000, was suddenly expanded by the organization of the volunteers into an army of 120,000 men. Our occupation of Cuba, Porto Rico and the Hawaiian and Philippine Islands presented unknown problems to the medical department, and opened new and extensive fields in the domain of sanitation and preventive medicine. By the cultivation of these fields some of our preconceived theories of the origin and spread of certain diseases were overthrown, and these were replaced by facts established on a scientific basis. The fever-stricken camps of the South were not without their instructive lessons. I need hardly mention to this audience the value of the demonstration by the board of officers consisting of Reed of the regular army, and Vaughn and Shakespeare of the volunteers, that the typhoid of those camps was spread by contact and through the agency of the house fly; nor of the brilliant discovery of that other board of medical officers, in which Reed was associated with Carrol, Lazear and Agra-

monte, which gave to the world the knowledge of the manner in which yellow fever is transmitted, a discovery which made the Panama canal possible, the influence of which on the commerce, politics and international relations of the nations of the world cannot yet be foreseen.

The eradication of small-pox in Porto Rico and the Philippines, the conquest of hookworm disease in Porto Rico by Ashford of the Army, and King of the Public Health and Marine-Hospital Service, the work of the Board for the Study of Tropical Diseases, in Manila, are all proof of the fact that the military medical service has made itself felt in the field of sanitation and preventive medicine, and that it merits recognition equally with the civil hospital as a factor in the development of the art of medicine.

Only under military control and authority have some of the achievements in preventive medicine been made possible. It was under such conditions that the efficacy of antityphoid vaccination was positively established. The results were so remarkable that a brief statement of the facts is excusable. In a command of a strength of 16,000, encamped near communities where typhoid prevailed, and with which communication was in no way restricted, but two cases appeared; in one of these the prophylactic treatment had not been completed; in the other case, that of a civilian teamster, prophylactic treatment had been avoided. Never in the previous experience of our army had troops in such numbers been assembled under similar conditions with so small a rate of morbidity from this disease. To those of us who had gone through the experiences of the Spanish-American War, these results appear little short of marvelous.

There are other problems in preventive medicine of equal importance to the civil body which can probably be solved by the military physician better than by the civilian. One of these is the venereal question, a subject which has received the serious consideration of the military authorities from time immemorial. Accurate

statistics regarding the prevalence of this class of diseases among the civil population, for obvious reasons, are not obtainable. In the military service, no difficulty exists in securing such data. There is no reason to believe that these diseases prevail to any greater extent among soldiers than among civilians, and from the data obtained in the service we are enabled to form some conception of their prevalence generally. This question is one that concerns the civil hospital fully as much as the military establishment, and our united efforts should be directed to its practical solution. The medical department of the army is now engaged in a campaign against this class of diseases, the results from which lead to the belief that an efficient prophylaxis, as one of the factors in prevention and control, is possible of attainment. It must not be understood, however, that the educational and moral sides of this question are lost sight of by the military authorities; those aspects, too, are seriously taken into consideration in its solution.

The medical department of the army early recognized the value of salvarsan to the military service, and our medical officers were among the first in this country to make use of it in the treatment of syphilis; since then they have made a number of valuable contributions to the literature of this subject.

From this brief and necessarily incomplete account of some of the achievements of the medical department of our army in time of peace, it is apparent that it has not lagged far behind the civil hospital, and that its labors have been of benefit to the civil community as well as to the military establishment. In consequence a more intimate relationship has been established between the civil and military life of the country, which tends to create a greater interest in the military establishment on the part of our people. It is to be regretted that this relationship cannot be strengthened further by assigning medical officers to duty at civil hospitals for limited periods, as is done in some of the foreign services; our numbers are, unfortunately, too small to permit this.

THE VOLUNTEER MEDICAL DEPARTMENT

We have already seen that the organized militia constitutes part of the land forces of the United States when called into active service; it then becomes national in character, and the President is its commander-in-chief. This force has an approximate strength of 120,000. Its medical department comprises about 800 officers and 2,600 enlisted men; it has eighteen field hospitals and thirteen ambulance companies organized and equipped.

The organization, armament and discipline of the organized militia when called into national service is the same as that of the regular army, and it receives the same pay and allowances; it participates in the maneuver and instruction camps with the regular army, and the War Department service schools, under certain restrictions, are open to its officers. Officers of the regular army are detailed to it as inspectors and instructors.

The medical officers of this force are, as a rule, earnest and capable, imbued with the proper military spirit, anxious and willing to learn from their colleagues of the regular establishment. The joint maneuvers and camps of instruction in which the regular army and the organized militia have participated biennially during the past eight or ten years have brought about a more intimate association, official, social and professional, between the two services, which has proved of mutual benefit to both classes of medical officers, and has been productive of increased military efficiency.

In the event of war, which is a possibility that may arise at any moment, the organized militia, after muster into the service of the United States, and the regular army increased to war strength, constitute the first line of defense. Our only method of supplementing this force is by the organization of a volunteer army. Like the organized militia, it is subject to the same laws, orders and regulations as those governing the regular army; it can be organized only when war is actually

existent or imminent, and practically the entire body is drawn from civil life, and is without military training or experience.

IN TIME OF WAR

Under our field service regulations the medical department is charged with the administration of the sanitary service, and its personnel, in time of war, includes:

1. All persons serving in or employed by the medical department.

2. Members of the American National Red Cross Association assigned to duty with the medical department by competent authority.

3. Individuals whose voluntary service with the medical department is duly authorized.

Specifically its duties are:

1. The initiation of sanitary measures to insure the health of troops.

2. The direction and execution of all measures of public health among the inhabitants of occupied territory.

3. The care of the sick and wounded on the march, in camp, on the battle-field and after removal therefrom.

4. The methodical disposition of the sick and wounded so as to insure the retention of those effective and to relieve the fighting force of the non-effective.

5. The transportation of the sick and wounded.

6. The establishment of hospitals and other formations for the care of the sick and injured.

7. The supply of sanitary *matériel* necessary for the health of troops and for the care of the sick and injured.

8. The preparation and preservation of individual records of sickness and injury, in order that claims may be adjudicated with justice to the government and to the individual (Field Service Regulations).

In addition to caring for the sick and wounded, medical officers act as sanitary advisers of commanders, and instruct the troops in personal hygiene. Beginning with camp sites and the water-supply, they continue their

supervision of these and other sanitary matters to the close of the campaign (Field Service Regulations).

The sanitary service in the field is divided into service with the mobile forces, including camps and bivouacs, marches and combats, and service of the line of communications, including all sanitary formations not accompanying the troops.

The sanitary formations accompanying the mobile forces are ambulance companies and field hospitals (Field Service Regulations).

The home territory, in which new troops are being organized, trained and mobilized, with its large military hospitals, convalescent camps and supply depots, must also be provided with its necessary quota of medical department personnel.

INADEQUACY OF PRESENT PERSONNEL

It is unnecessary for our purpose to enter into more detail regarding the functions and organization of the medical department in time of war. Enough has been said to make clear the complexity of an efficient sanitary service, and to make evident the varied qualifications that the military medical officer should possess. The personnel of our present medical department organized, as prescribed in our field service regulations, is inadequate even for the strength of our present peace establishment, and in the event of war and a necessarily increased military establishment we shall be compelled to call on the civil physicians of the country to supply the necessary medical officers. There is no lack of excellent talent among the medical profession, and in time of national danger their services unquestionably will be freely and unselfishly tendered to the nation. We are justified in the belief that the best material will be secured from the civil hospitals. The organized system, the orderly routine and the coordination among the different departments which exist in the better class of these institutions greatly facilitate the training of such

a personnel for military duty. The medical staff, trained in hospital methods, and specialists in the various branches of medicine will be invaluable to the military service, especially at our general and base hospitals. It was primarily with this object in view that the law establishing the Medical Reserve Corps was enacted.

This corps is composed of active and inactive members; the former are assigned to duty with troops, and supplement the regular corps; at present there are approximately 125 of these officers in active service. The inactive list of this corps numbers upward of 900 members, and includes former volunteer and contract surgeons of the army and many eminent hospital physicians. On the occurrence of the emergency under which they are ordered into active service, they would be assigned to the particular duty for which their experience and special qualifications best fitted them. This latter class has manifested great interest in medicomilitary subjects, as shown by the organization of a number of medical reserve corps associations. It is especially unfortunate that our government gives so little encouragement to these inactive officers, as no provision of law exists under which they can be ordered to duty with troops at maneuver and instruction camps, in order that they may obtain the practical experience so essential in military medicine.

The civil hospitals, too, in time of war may be called on to render assistance to the military establishment. No one can foretell when war may burst on us, or what unseen needs may suddenly arise as a consequence. We have military hospitals and posts which could be quickly expanded or converted into general hospitals for a sudden influx of sick and wounded, but should we become overwhelmed early in the campaign with large numbers of disabled we would be obliged to avail ourselves of the facilities of these institutions. Especially might this be the case in the mobilization of new troops near large cities.

HOW THE CIVIL HOSPITALS CAN HELP

Among a people like ours, where war ever appears remote and military service is not compulsory, it is not strange that its citizens take but little interest in military subjects; yet it is the solemn obligation of every citizen to bear his share of the burden that war may impose. Our civil hospitals, through their staffs, wield a powerful influence on professional thought and opinion, but beyond the enrolment of some of their members in the Medical Reserve Corps have accomplished little toward arousing an appreciation of the military obligations that rest on the medical profession in time of war. How can the civil hospital aid in increasing the military efficiency of the nation? By stimulating interest in the army as a career for its well-trained and capable graduates. While the material returns of the service are limited, in the early years at least, the emoluments are far greater than that of the young physician who enters on a professional career in civil life. The experiences gained and opportunities enjoyed are many and varied. It is the policy of the department to encourage study and original work and to recognize merit, and every opportunity is extended to its officers to advance themselves professionally. That it recognizes the value of men trained in civil hospitals is manifested by the requirement that every candidate for the medical corps must have had at least one year's experience as an intern in a civil hospital after graduation in medicine.

The same class of men is also desirable for service in the Medical Reserve Corps. To this class of officers when inactive, unfortunately, slight opportunity is afforded either for professional advancement or for military training, and we must appeal to their generosity and patriotism should the emergency arise calling them to active service. In his last annual report the Surgeon General of the Army makes the following remark in speaking of this class of officers:

The profession in civil life is just as well qualified to treat the medical and surgical disabilities incident to the military service as are officers of the medical department, but they can never become familiar with the many special duties required of medical officers except by practical experience with troops.

The training of these officers should not be postponed until after the appearance of the emergency under which they are called into active service; they should be afforded the opportunity of gaining that practical experience with troops which is so essential to their efficiency as military medical officers. Here again, much can be accomplished by the civil hospitals, through concerted action on the part of their staffs looking to the enactment of the legislation necessary to make such opportunity possible.

The efficiency of an army is dependent on the efficiency of its elements, and not the least of these is its medical department; and it is to the medical profession of the country, typified in the civil hospital, that we must look for the success of this factor in the military establishment.

The relationship between the civil hospital and the military establishment has been growing closer; still closer affiliation will result in increased interest in military affairs, and prove mutually beneficial to both branches of our profession.

ABSTRACT OF DISCUSSION

DR. SAMUEL C. PLUMMER: Up to a few years ago there was little communication between military and civil surgeons, but now that many Army surgeons are stationed nearer the cities there is an opportunity for the two to become better acquainted in the hospitals and clinics. I hope that the relationship will grow closer.

DR. CHARLES RICHARD, Washington, D. C.: The point I wish to bring out in my paper is that few members of our profession know much of our Army and its medical department organization, or of the responsibilities of the latter in case of an outbreak of war. The greatest force we could organize and put into the field at once would consist of the militia and regular army, consisting of about 200,000 men. Of that force, a certain proportion (about one-fourth or one-fifth) would be needed to look after the sea-coast defenses. The

militia, under our present laws, cannot be taken out of the country, so that in the event of invasion of a foreign country we would have to depend on untrained volunteers and that part of the regular army that could be spared from the defenses of the country. For this force an adequate medical department personnel would also be necessary. Every doctor in our country should appreciate that he can become a part of the military strength, but to do this he must take sufficient interest in the subject and learn something of the requirements of the military service. It was partly with this point in view that the Medical Reserve Corps was formed. Its members are furnished with medicomilitary literature by the War Department, and they have shown their interest by the formation of societies in which these subjects are discussed, and are becoming more and more interested in the military branch of our profession. I have no doubt that when the occasion arises, the vast majority of the members of the Medical Reserve Corps will do excellent work. The administrative work will necessarily fall to the regular Medical Corps until the Reserve Corps has gained experience in such work.

HOSPITALS AND THE HEALTH PROBLEM

WITH SPECIAL REFERENCE TO THE NECESSITIES OF RURAL AMERICA

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What is America's health problem? Briefly, it is to prevent preventable disease, cure curable disease, relieve suffering, prolong life and to do all these things in the most intelligent, satisfactory and economical manner possible. Toward the solution of this problem much is being done by states and cities through more and more efficient health departments; a part of the public press is giving generously of its space for the dissemination of knowledge pertaining to health and disease; the church is concerning itself with the problem in a manner that augurs well for the future, as, witness, Hospital Sunday, Tuberculosis Sunday, and health sermons based not on fads and fancies but on facts.

MORE COUNTRY HOSPITALS NEEDED

It is not my purpose to deal with the question of prevention, except to point out how necessary it is to care for and cure disease in order to prevent it. I shall have accomplished my purpose in part if even in small degree my paper helps to fix attention on the necessities of rural America in the solution of the health problem and on the fact that the modern hospital is everywhere a necessary adjunct to the application of preventive and scientific medicine and surgery. Notwithstanding the advantages of natural environment, rural people have not the same opportunity for health conservation that urban residents have.

The mortality-rate for almost all diseases is lower in rural districts than in cities. It is probable that a considerable proportion of the difference is due to the fact that residents of the former, when critically ill, resort to the institutions and hospitals in cities for treatment, and when deaths occur they are registered in the cities and increase the mortality of the latter.[1]

One notable exception is typhoid. The mortality-rate for this disease in 1910 for cities in registration states was 22.4 per 100,000 population; for the rural part of registration states, 23.3.[2]

HOSPITAL TREATMENT FOR RURAL TYPHOID

In view of the fact that rural typhoid in America is nearly always treated in the home, two significant statements are quoted:[3]

This rural frequency is important for dwellers in cities. The water-supply and milk-supply, as well as many articles of food, are derived from the country. There is a constant going and coming between the city and country. An infected city may spread infection far and wide through the country, while from the country there may be a steady stream of infected persons into the city.

The stamping out of typhoid fever is one of the great tasks before the profession of this country. The story is such an old one that little attention is paid to it. We of the profession shrug our shoulders and wonder at the apathy of civic authorities. Are we guiltless? Every patient with typhoid fever means infection from a previous one. If thorough disinfection were carried out in every case of typhoid

1. Mortality Statistics, 1900-1904, Bureau of the Census.

2. Mortality Statistics, Bulletin 109, 1910: "Of the registration cities of 100,000 population or over, in 1910, Omaha, Neb., had the highest rate, 86.7. Other cities with high rates for the year were Minneapolis, 58.7; Kansas City, Mo., 54.4; Atlanta, Ga., 50.1; Birmingham, Ala., 49.5; Nashville, Tenn., 48.9; Milwaukee, Wis., 45.7; Spokane, Wash., 45.4; and Baltimore, Md., 42. The lowest rates shown for the large cities were those of Bridgeport, Conn., 4.9; Paterson, N. J., 7.1; Cincinnati, 8.8; and Cambridge, Mass., 9.5. These rates approach the rates of typhoid mortality of the leading cities of western Europe, examples of which for the year 1910 were as follows: London, four per 100,000; Edinburgh, two; Dublin, ten; Paris, seven; Brussels, nineteen; Amsterdam, seven; Copenhagen, three; Stockholm, four; Christiania, two; Berlin, four; and Vienna, four."

3. McRae, Thomas: Osler's Modern Medicine, 1907, ii, 78, 71, 209, 208.

fever this year, and the same next year, what a decrease there would be in the incidence of the disease! Disinfection is often in the hands of persons who do not realize the importance of its being thorough, and it is no easy task for the physician to see that it is carried out. Too often he does not realize his own responsibility and is thoroughly satisfied if he brings the patient well through the attack, heedless of the danger to the community.

If possible the patient should be treated in a hospital. The advantages of this are many, for in few houses can a patient be handled as satisfactorily as in a hospital. The nursing can be done in a better way, the complications may be recognized and treated earlier and the requisite disinfection carried out more thoroughly. In country practice and in many places hospitals are not available and the best that can be done has then to be done.

It has been estimated that probably 8,000 persons in the United States die every year from perforation of the intestine in typhoid fever and perhaps 2,500 of these can be saved by proper treatment.

In a country physician's practice, a typhoid patient with this complication has no more chance for existence than a snowball in a kettle of boiling water.

In 1910 the death-rate from tuberculosis of the lungs was 139.7 per 100,000 population; from pneumonia, 147.7; organic heart disease, 141.5; diarrhea and enteritis (under 2 years), 100.8; nephritis and Bright's disease, 99.0. In other words, there were in the United States in 1910, approximately 131,000 deaths from tuberculosis of the lungs; from pneumonia, 140,000; organic heart disease, 133,000; diarrhea and enteritis, 95,000; nephritis and Bright's disease, 93,000.

TREATMENT OF PREVENTABLE DISEASES

On every hand we are being taught a great deal about tuberculosis; the instruction, most of it, is authoritative, timely and important, and is accomplishing results. Nevertheless, when it is known that the total number of deaths in the United States from the great white plague (all forms) is approximately 151,000, while from the other four diseases just mentioned it is about 461,000,

one must inquire why tuberculosis should occupy the stage to the exclusion of the other characters whose parts must be played if the sequel is not to be disappointing. Is not a man who has died of heart disease just as dead as the one from tuberculosis? True, the latter has had with him the infective element in larger measure and he is entitled to the title rôle; still, the deaths from other infections disclose the real tragedy of preventable disease.

"Heart disease in about 50 per cent. of all cases is a sequence of acute endocarditis. Among 670 cases of chronic heart disease at the Leipsic clinic 58.5 per cent. followed acute rheumatism. In the all-important endocarditic group of the acute infections, rheumatic fever plays the important rôle. There is no single problem of greater importance in preventive medicine than the reduction of the enormous waste of life in children in consequence of the rheumatic infection."[4]

Here is one of the peculiarities of mortality statistics: If a patient with a crippled heart contracts pneumonia, typhoid or other disease and dies because his limited heart-power is not sufficient to carry him through the crisis, death is attributed to the preceding acute disease. If he dies from heart-disease some time after apparent recovery from the acute infection which caused it, the latter is infrequently mentioned as even a contributory cause of death. Hence we find the death-rate from rheumatism only 7.4 per 100,000 of population, while it is responsible for more than one-half the cases of chronic heart-disease.

In no disease is it more important than in rheumatism that the physician "should be a watchman all the time," for on the early detection of heart complications may depend the life or future usefulness of a patient. If it were possible in the beginning of the attack to remove patients with acute rheumatism from their unhygienic surroundings to hospitals near at hand and there find proper diet and facilities for care and treatment, including that important adjunct to modern medicine, the

4. Osler and Gibson: Osler's Modern Medicine, 1908, iv, 205, 256.

trained nurse, all would be done that can be done toward lessening the severity of the attack, adding to the comfort of the patient and preventing the disastrous complications, of which heart-disease is the most common.

Rarely, indeed, can one find in a rural district a patient with rheumatism receiving the benefits of hospital care, or one who can be prevailed on to provide for himself early and suitable nursing at home, or tolerate on the part of the physician the watchfulness so necessary for sensible and successful treatment.

The rural pneumonia portion of the health problem can be solved in part, at least, if suitable hospital provision for its treatment can be made. It is well known that when we are dealing with this disease "the scenes change rapidly and the passage of an hour or two may present an entirely different picture. The obvious lesson of this is that pneumonia patients should be watched carefully and seen by the attending physician at frequent intervals, especially during the latter part of the disease, when judicious and well timed medication may tide the patient over the crisis to recovery."[5]

How is the country physician to follow this sound advice? The reasons why he cannot are perfectly plain to both the patient and the physician. In cases of diarrhea and enteritis and other children's diseases, the rural hospital, with its complement of visiting nurses, can materially help to solve the infant-mortality part of the health problem.

Time does not permit a discussion of the whole question, yet your attention is asked to two of its minor, but none the less important, elements:

In 1910 there were approximately 8,000 deaths from appendicitis in the United States—not a large number when compared with deaths from other causes, but rather formidable in the light of this indictment by one of the world's greatest surgeons.[6] He says:

5. Musser and Norris: Osler's Modern Medicine, 1907, ii, 636.
6. Murphy, J. B.: Keen's Surgery, 1908, iv, 778.

It seems to me that every death from appendicitis is chargeable directly to the people, for not calling in the physician sufficiently early after the onset of the symptoms, or to the physician and surgeon for not acting promptly when they are called. We are sorry to admit that the latter represents the greater percentage. We should have no deaths from appendicitis, but we are having them. We should accept the force of numbers and experience to guide us against the culpable, if not criminal, error of delay in this class of cases.

Granted that delay is both culpable and criminal, blame should not be laid entirely on the people or on the physician, or even on both; it is due rather to the want of instruction relative to the achievements of scientific medicine and surgery. Some there are who, practicing what they teach, cure every case of appendicitis with colon tube and olive oil—excepting only those that die of peritonitis.

In a great city, living under the very eaves of a modern hospital, a physician who would allow a patient to die from appendicitis for the want of timely surgical treatment is no doubt culpable in a degree approaching criminality. In the country, when one has any serious sickness, especially appendicitis, procrastination is as common as it is dangerous. Operation at home is consented to only as a last resort; to get to the hospital one must endure a variety of hardships incident to a long railway journey for a very sick person. The patient dies while waiting to recover sufficiently to be able to go away; the death certificate is made out as best suits the exigencies of the occasion, and thereby hangs a tale which mortality statistics do not tell.

In 1910 approximately 15,000 mothers died from diseases and accidents incident to childbirth; nearly 7,000 of these from puerperal septicemia. There were 70,000 deaths from premature birth and diseases and injury peculiar to early infancy—a total of 85,000 mothers and infants dying annually in the United States from causes which all authorities agree are largely preventable or curable. These cold figures do not disclose their sorrowful story; the resulting desolation, woe and despair beggar description.

Mortality statistics for maternity hospitals confirm the following statement:[7]

The hospital is now the safe place for a woman to be delivered in; it is in the private dwellings that danger lurks. The poorest, the dirtiest, the most dissolute women are safely confined in a hospital; the richest, the youngest, the purest and the loveliest sometimes succumb in giving birth to a child in their own homes.

HOSPITAL LEGISLATION IN IOWA

In 1909 the Thirty-Third General Assembly of Iowa became interested in the hospital and health problem; its members recognized that rural communities, in dealing with accident and disease, do not have the same advantages as urban residents. Little argument was required to convince this body of intelligent and earnest men that any considerable number of people should have at least the right to work out their common health problem. They scarcely listened to the contention that such a privilege would result in a tax on the many for the benefit of the few. Proportionate taxation for the benefit of all admitted of no argument, and this legislature deliberately enacted the law making possible, in Iowa, the ultimate establishment of an adequate supply of hospitals with equal rights to all and special privileges to none.[8]

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7. Garrigues: Quoted by Dobbin, Handbook of the Medical Sciences, 1907, v, 379.

8. Some Fundamental Truths: (1) A number of people will have a varying amount of sickness. (2) Of this amount of sickness, a fairly definite and constant portion requires and should have the advantages of hospital treatment. (3) A given disease presents the same general characteristics and is the same thing wherever it exists. (4) Whatever is known to be the very best treatment of any disease should be made available to all persons afflicted with disease. (5) Of the total number of persons who are ill a few may have homes and the means that will enable them to be fairly well cared for, but the vast majority are not so situated. (6) In all cases of serious sickness, whether medical or surgical, nursing, diet and sanitary environment are of prime importance in treatment. (7) While trained nursing is an essential part of the treatment, the cost of such nursing is so high that it is next to impossible for any but the very well-to-do to avail themselves of its great benefits. (8) People are needlessly dying, suffering, and being handicapped both physically and financially every year, every month, every week and every day, because of the lack of hospital advantages within their reach and means. (9) Every human being, with only enough exceptions to prove the rule, having arrived at the age of discretion, regards his health as his most valuable possession and his life as the one thing for which he is willing to exchange all else. (10) Hospitals, to fulfil their mission, should be established with reference to a given number of people, be maintained by the people and conducted primarily for the people.

The author of this law had in mind the necessity that exists, and it was his purpose to establish a public hospital with a board of trustees that will become a board of lay sanitarians who, in formulating such rules and regulations as will enable the hospital to be of the greatest good to the greatest number, will become informed about health matters and will be influential factors in the solution of the community's health problem.

There will be neither incentive nor opportunity to make such a hospital a money-making institution. Crime and graft in the form of illegal and unnecessary operations, wrong diagnoses for the sake of prolonged treatment, unwarranted division of fees and other evils cannot go on undiscovered and unexposed. It will furnish its care at the lowest price requisite for proper maintenance; it will not concern itself with the fees of its physicians and surgeons except in those cases in which patients are subjects for charity. It may, however, frown on exorbitant and extortionate charges. It will be conducted on a strictly ethical basis and be made the health center for a community—a center from which health information will be disseminated by both precept and example. Its equipment will be complete with every facility for up-to-date work; it will have a pathologic and bacteriologic laboratory, which should be auxiliary to the laboratory of the state board of health. An ambulance service will be provided. A necessary and most important adjunct will be a training-school for nurses. An *x*-ray laboratory will confer great benefits on both patients and physicians. At such a hospital the fact will be recognized that there are many specialists of signal ability whose services may be required from time to time. In order that the people of a community may, on occasion, have the benefit of their skill and experience, a consulting staff acceptable to the people will be selected by its physicians and surgeons.

It was not the intent of the law to supplant standard hospitals; all have the common function of caring for

HOSPITALS AND SANATORIUMS OF UNITED STATES *

State	Proportion of Beds to Population		Public		Private		Tuberculosis				Corporation		Total Hospitals
							Public		Private				
	Population	Beds	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	
Alabama	2,138,093	2,774	10	1,627	30	1,036	2	49	...	.....	2	62	44
Arizona	204,354	893	5	58	20	478	2	58	6	225	1	74	34
Arkansas	1,574,449	2,236	14	991	15	907	1	74	...	.....	1	264	31
California	2,377,549	13,709	96	6,326	183	6,032	5	397	13	696	2	258	299
Colorado	799,024	4,759	30	1,743	48	1,535	4	214	10	787	4	480	96
Connecticut	1,114,756	4,407	24	2,349	27	1,401	1	110	5	547	..	.....	57
Delaware	202,322	448	6	402	1	38	1	8	...	.....	..	.....	8
Florida	752,619	1,066	20	540	17	406	..	.....	...	.....	2	120	39
Georgia	2,609,121	3,076	16	1,809	40	880	2	82	5	205	1	100	64
Idaho	325,594	1,157	19	643	21	374	..	.....	1	100	1	40	42
Illinois	5,638,591	18,285	95	7,028	140	8,497	2	1,835	4	815	2	110	243
Indiana	2,700,876	6,231	45	2,791	74	3,001	2	110	4	122	2	207	127
Iowa	2,224,771	4,890	60	2,396	64	2,260	2	144	1	20	1	70	128
Kansas	1,690,949	3,382	30	1,535	58	1,711	..	.....	2	21	2	115	92
Kentucky	2,289,905	2,751	27	1,930	36	651	1	50	...	.....	1	120	65
Louisiana	1,656,388	2,718	7	1,613	20	1,055	..	.....	2	50	..	.....	29
Maine	742,371	1,542	21	1,159	14	283	..	.....	1	100	..	.....	36
Maryland	1,295,346	4,866	33	3,023	22	990	2	600	3	235	3	18	63
Massachusetts	3,366,416	15,474	69	6,974	158	6,367	9	1,482	13	651	..	.....	249
Michigan	2,810,173	7,237	69	2,612	91	4,075	2	322	1	48	1	180	164
Minnesota	2,075,708	6,286	57	3,678	85	2,118	4	260	3	75	2	155	151
Mississippi	1,797,114	1,061	9	429	22	632	..	.....	...	.....	..	.....	31

Missouri	3,293,335	7,849	33	3,516	93	4,011	1	150	1	22	1	150	129
Montana	376,053	2,384	15	606	25	1,630	..	.....	...	.....	5	148	45
Nebraska	1,192,214	4,166	26	3,543	35	713	..	.....	...	.....	..	.....	61
New Hampshire	430,572	1,102	22	775	12	222	1	35	2	70	..	.....	37
New Jersey	2,537,167	6,700	48	4,434	33	1,663	4	445	1	158	..	.....	86
New Mexico	327,301	947	8	89	19	263	2	52	8	445	3	98	40
New York	9,113,279	42,904	180	23,012	234	16,035	15	2,817	16	906	2	134	447
Nevada	81,875	498	9	296	7	173	..	.....	...	.....	3	29	19
North Carolina	2,206,281	2,364	19	725	50	1,367	1	50	7	185	2	37	79
North Dakota	577,056	1,200	17	611	23	589	..	.....	...	.....	..	.....	40
Ohio	4,767,121	15,126	109	11,838	107	2,990	6	294	...	.....	1	4	223
Oklahoma	1,657,155	1,245	10	270	40	963	1	12	...	.....	..	.....	51
Oregon	672,765	2,109	11	795	29	1,212	1	62	1	40	..	.....	42
Pennsylvania	7,665,111	29,340	83	22,643	92	4,289	7	1,962	4	396	1	50	187
Rhode Island	542,610	1,628	8	305	11	921	4	402	...	.....	..	.....	23
South Carolina	1,515,400	834	8	332	17	431	2	65	...	.....	1	6	28
South Dakota	583,888	1,069	10	442	19	613	1	14	...	.....	..	.....	30
Tennessee	2,184,789	2,753	18	1,365	49	1,322	..	.....	2	66	..	.....	69
Texas	3,896,542	7,444	30	1,726	90	5,277	1	60	5	256	4	125	130
Utah	373,351	1,327	9	920	11	395	..	.....	...	.....	2	12	22
Vermont	355,956	965	6	521	14	400	..	.....	1	44	..	.....	21
Virginia	2,061,612	2,870	22	1,076	43	1,545	2	131	2	27	1	91	70
Washington	1,114,990	4,285	42	3,012	49	1,210	1	31	1	32	..	.....	93
West Virginia	1,221,119	2,078	12	657	42	1,376	..	.....	...	.....	2	45	56
Wisconsin	2,333,860	6,015	54	3,084	80	2,584	2	190	3	107	1	50	140
Wyoming	145,965	394	7	286	8	90	..	.....	...	.....	1	18	16
District of Columbia	331,069	1,799	8	895	6	734	2	170	...	.....	..	.....	16
Totals	91,944,925	260,643	1,586	139,340	2,424	97,745	96	12,737	128	7,451	58	3,370	4,292

* Insane hospitals, reformatories, homes for aged, feeble-minded, blind and orphans, county poor farms and similar institutions not included. The table was prepared to show in a general way the number and kinds of hospitals in the United States and the proportion of beds to population. No claim is made for more than approximate accuracy.

the sick and disabled. Some perform a dual service by reason of their affiliation with medical colleges, furnishing the practical training for surgeons, physicians and nurses. Many are of high class, others are good, some tolerable, some merely boarding-houses with "operating-room" and "rooms for rent," and some are positively bad. The present and urgent need is the establishment of an adequate supply of reputable hospitals, all to be standardized and inspected as the logical sequence to the same processes for medical colleges and their graduates. As a result the great surgeon will become greater and the good physician and surgeon better. The poor, careless, indifferent few who endanger society and who are the curse of reputable medical men will be driven out of the profession, removing the point of attack for carping critics who, under the auspices of the league for medical riot, go about the country, disguised with the cloak of freedom, noisomely assailing the honor and integrity of the entire medical profession and offering jeopardy as a substitute for safety.

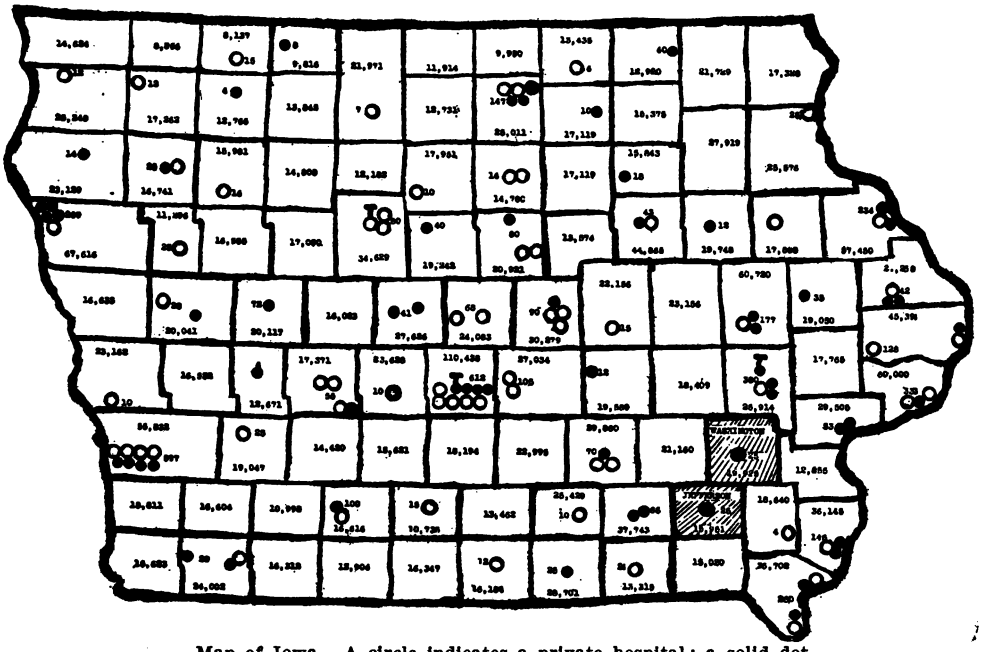
It is noteworthy that the first hospitals built under the Iowa law were located in counties bearing the names of Washington and Jefferson. The table shows the hospital situation in the United States, and the map the number and location of public and private hospitals, the number of beds and the proportion of beds to population in Iowa.[9] In studying this bear in mind that "those best qualified to judge seem to be of the opinion that every civilized community requires one hospital bed for each 100 inhabitants."[10]

Women and children first on the sea! What of mothers and infants on the land? We stand aghast at news of an appalling *Titanic* disaster, telling of over 1,500 lives lost at sea. The governments of two nations instantly prepare for an investigation of causes and quickly fix responsibility. There is no delay. The court of inquiry

9. Compiled from American Medical Directory, 1912, Ed. 3.
10. Ochsner and Sturm: The Organization, Construction and Management of Hospitals, 1909, p. 11.

has convened beside the sea and is the port of entry for survivors. This alertness is striking, compared with the dilatory tactics pursued when measures are proposed for the remedying of needless waste of life on land.

If we think of each state as a gigantic *Titanic* carrying its cargo of human souls across the sea of life, having in mind the icebergs that hazard the voyage from birth to death, we are blind, or will not see, if we do not pay attention to the insufficient number and uncertain character of some of each ship's life-boats.



Map of Iowa. A circle indicates a private hospital; a solid dot, a public hospital; T, a tuberculosis hospital; the figures indicate population and total number of beds in each county.

CONCLUSION

In conclusion, and in order that more and better means may be provided for the safety of passengers and crew, competition here and there and now and then should reasonably yield to cooperation for health conservation; there should be developed a public hospital system fash-

ioned somewhat after the public-school system, and our national health should be made an ever-increasing national asset. With these ends in view Congress should enact into law the measure creating a national department of health with as many bureaus as may be necessary to enable it to perform its main function of "enlightening and directing public opinion in regard to the broad problems of hygiene and representing to the world the practical accomplishments of scientific medicine." Congress should realize that such legislation will promote the physical welfare and domestic tranquillity of our people and clearly be in accord with the high ideals of the fathers who wrote these words into our constitution.

ABSTRACT OF DISCUSSION

DR. G. W. GREEN, Chicago: How is it proposed to maintain county hospitals?

DR. E. E. MUNGER, Spencer, Iowa: The law provides that the board of supervisors may appropriate a certain percentage of the county general fund for maintenance. In the rural districts of Iowa there are few paupers and the question of maintenance is not a serious one. The establishment of a public hospital will create no new expense beyond the cost of building and equipment. Every person who is able will pay a reasonable price, to be fixed by the board of trustees, for his hospital care. Those who are unable to care for themselves are now being cared for by charity in one form or another.

MISS M. E. MCCALMONT, Brooklyn, N. Y.: The question is really the large problem of rural nursing. Has Dr. Munger any practical solution for it?

DR. E. E. MUNGER, Spencer, Iowa: The health problem is a community problem and should be solved on a cooperative community basis—this does not mean a socialistic basis. It must be the ultimate object of scientific medicine and surgery to bestow its benefits on all people alike. How this can be done without an adequate supply of standard hospitals, located and conducted with reference to the needs of the people, I do not know. The blue-prints give some idea of the completeness of the Washington and Jefferson county hospitals, which will be ready for formal opening within a few weeks. It is confidently expected that these counties will set an example which will be followed by many rural communities. They will solve the problem of delay in operative cases, and medical and obstetric cases will find an

environment where good care will prevent many fatalities and bad results hitherto attributable to lack of care. These hospitals will have training-schools for nurses. Their graduates may not all become expert surgical assistants, but they can be intelligent general nurses and there is urgent need for a much larger number of these.

Dr. D. S. Fairchild, Clinton, Iowa: I come from the same state that Dr. Munger does. In Iowa we have only one city which has 100,000 population, but ours is a very prosperous farming community and comparatively rich. These people are able to take care of themselves when sick and have no occasion to avail themselves of charity. So far as the hospitals in small towns are concerned, no provision will be necessary for charity cases, as there are practically no poor people. I cannot therefore join with Dr. Munger in his enthusiasm for the county hospitals, but the problem will probably be solved in time. This hospital agitation, however, will have a great influence in educating the people to the advantage of better methods of medical and surgical treatment. In our agricultural communities the money question will always enter into matters of this kind, and the question of maintenance will be of so much importance that the people will be slow to tax themselves until they are convinced that the hospital may be self-supporting.

In regard to training nurses, I believe that the county hospitals will have difficulty in securing the better class of applicants for the training-school. I am told that in towns of 10,000 to 15,000 people the hospitals now have trouble in securing high-grade girls. The tendency seems to be for the better class of young women to seek application in the training-schools in larger cities. The question of hospital extension is one that must necessarily work itself out slowly.

Dr. E. E. Munger, Spencer, Iowa: The proposition was defeated in my county by a vote which under ordinary circumstances should be accepted as final; but two other counties 300 miles away carried the same proposition by large majorities. We must wait a little while to determine whether final success depends on enthusiasm or on results. Bona fide donations of nearly $15,000 to the hospital, conditioned only on the voting of a one-half mill tax, did not help matters. These offers were so generous and unusual that the donors became subjects for suspicion and derision. The question of farmers not being willing to be taxed for the public health suggests the thought that health is quite as important as education. The tax for a hospital in a rural community is a mere trifle compared to the school-tax. If results justify the expenditure not much complaint will be heard. The question may well be asked whether many small, private and competitive hospitals—some with meager laboratory equipment, others without even a microscope—

can ever become the efficient factors hospitals should be in solving the health problem. They certainly cannot if they are conducted largely for the purpose of doing selected surgical operations and serving the interests of the proprietors instead of the public.

MISS M. E. MCCALMONT, Brooklyn: Would it not be possible to have a district nursing organization, properly supported, on which the surgeons from outlying districts could call, taking nurses with suitable surgical equipment into the homes of the farmers? The expense would be much less and the work more far-reaching, with possibilities of educational propaganda.

DR. JOHN ALLAN HORNSBY, Chicago: Is your idea that the girls who are nursing in private cases could keep a small equipment on hand, such as is needed by graduated nurses who are on duty in towns where there is no hospital, to prepare a home hospital?

MISS M. E. MCCALMONT, Brooklyn: Yes, and that they be paid by the county or state, or community, but with the proviso that hospitals or outside surgeons or medical men could have the benefit of this organization.

DR. JOHN ALLAN HORNSBY, Chicago: I recently attempted to get a line on the nursing facilities and equipment of the hospitals. I wrote to all the state boards of nursing registration and fully expected to get some sharp lectures, but instead of that I received long, fine and thoroughly well-thought-out letters from these women that were a marvel to me; I found that, instead of traveling at cross-purposes with the nursing profession I was traveling in the same direction and keeping close company with them. I found that their ideals and ambitions were the ideals and ambitions of the medical profession, as I knew these ambitions. We are not apart at all. There seemed some time ago to be a feeling that the nurses were going a little too fast; that the nursing leaders were insisting on too high a grade of preliminary education and too refined a training from an educational standpoint, according to the present status of the market, so far as material for nurses was concerned. And possibly that is true. I know it is true in some places—in our own section of the country for instance. We have been accustomed in Chicago to take grammar-school graduates until recently. These grammar-school graduates are in our training-school—some in the junior class and some in the intermediate class. Some of the other training-schools have set the high-school standard, and all of a sudden the state commission promulgated a notice to the effect that they would not register schools that did not have a curriculum prescribed by that commission. Now here we had girls in our training-school that had not had training to work out this curriculum.

In addition, the commission demanded a number of hours' study each day and theoretical work in class. Some of these girls were not capable of working that number of hours; they were tired and incapable of doing the work because they had not acquired the habit of theoretical application in their school days. For these reasons we have fallen down somewhat in an effort to rise to the curriculum as it has been given to us by our State Board of Commissioners; but we are coming to it. There are some of us pushing it continuously, for some girls who are training can do it, but the great mass cannot.

MISS M. E. MCCALMONT, Brooklyn: I am not here as a representative of the nursing profession, but in the general interest of hospitals. I, myself, do not believe that the nursing profession is meeting the demands of the people. The nurses of our training-schools are not all that they might be. The reasons for this are many and the discussion is a lengthy one. I do not believe, however, that the leaders are entirely unanimous in their ideas of training and training-school methods.

RELATION OF THE PHYSICIAN TO THE HOSPITAL

JOHN B. MURPHY, A.M., M.D., LL.D.
CHICAGO

The most successful hospitals to-day are those that are in sympathy with their staff. The staff and the management must go hand in hand on account of their close relationships, which are complex, and will remain so until a certain standardization of all the hospital work can be effected. Not until then can the hospital and the profession succeed as one harmonious whole.

There are three different kinds of hospitals: those owned by private individuals, those run by corporations and the municipal hospitals. To secure the best result for the patient what is essential? I wish to mention first the one relationship that is of greatest vital importance to the hospital and the keystone to success between the hospital and its physicians, viz., that of rendering to each individual patient the highest type of scientific service from all the hospital departments. As far as the contact of the physician is concerned the question comes up in my mind as to how the patient is to be given the closest attention possible by the attending physician, and what element of this is the most important.

It is most important to find out about the patient before one makes a move, and the most significant element in this is to obtain a history, which is the hardest thing to obtain of a case. There is no man who has been connected with a hospital for many years who does not know that he cannot induce his interns and

staff to write histories without continual urging. The clinical history in many cases is more important in arriving at a diagnosis than the physical examination or laboratory findings, and yet who writes the history? The newest intern and least-experienced man on the residence staff. We give the most incompetent man the most important thing to do. We give him the dressing in septic cases and the writing of histories. There is a greater percentage of failures in diagnosis from badly written histories than from anything else; therefore the histories should be written by the senior member of the house staff.

The house staff has heretofore been composed of men who stay a year or a year and a half or at most two years. We must make these men, who are going to be leaders of the profession, stay in the hospital longer; we cannot make leaders in the profession from men who have only a year or a year and a half resident hospital experience. We must follow the German custom; that is, the man who is to become junior or senior assistant in the departments of medicine or surgery should remain four or five years, as this length of training is necessary to round out his apprenticeship and prepare him for his subsequent teaching and surgical responsibilities. The senior assistant is the resident representative of the attending staff. I am sure that every man who has had a hospital service will tell you that he learned more from his senior intern, if he were a competent one, than from any other man on the staff. Training in the hospital stimulates the scientific spirit and the desire to learn; without this spirit and the desire to learn there can be no resident teaching; therefore we cannot afford to be changing our interns every year.

The system of hospitals will be changed radically in the near future. The general asepsis and cleanliness of the entire hospital must be looked after as well as that in the operating department. The next important advance will be in the administration of the serotherapy

and vaccine treatments. Pathology must be pushed to the top notch; the pathologist is going to play the great rôle in the new therapeutic work. We must endeavor to have in every hospital the best trained men from that point of view that we can possibly secure because of the danger of anaphylaxis in serum treatments.

In the early part of the year, I endeavored to collect some data concerning hospital pathology, asepsis and cleanliness, but I received few replies to the letters that were sent and was therefore unable to formulate a report of value. The reason for the failure of the hospitals to give the information which I desired is worthy of the attention of this section.

The relationship of the Section on Hospitals to the hospitals, and the rôle it is to play, is a colossal one; I think that it is going to be second in importance only to the relationship of the Council on Medical Education to medical practice. Therefore the Section on Hospitals is going to be one of the most important sections of the American Medical Association.

The members of this section should be divided into committees to investigate the hospitals in the various states, so as to have at the next annual meeting a report on every hospital in the United States. We should have first a committee composed of three or five members to formulate a campaign to obtain the information desired. The work should be definitely mapped out and the outline of questions sent to each county medical society and to any man who you know will give a careful, conscientious analysis of the situation. That information will be given by the hospital management reluctantly. Hospitals refusing to give the information for the good of the profession should be classed as discredited or as questionable institutions. It will be found difficult to secure an idea from the hospital management of the septic cases and deaths in the hospital, because the hospital management realizes that a death from sepsis is a failure and a discredit to that hospital. We must

make it plain that this is a fact, and just as soon as we make it appear in that light, the hospital will assume the high position to which it is entitled. It is an obligation — a sacred obligation on our part — to see that all of the work within the hospital is conducted to the very best advantage of the patients admitted.

We want men working in every branch of the medical profession who are proficient. If they will prepare themselves as scientists they will not make so many mistakes in their early work. With this spirit within ourselves we will not have to ask people to legislate for us. Let us overcome our own shortcomings and we have all the legislation we want or need.

3305 South Michigan Avenue.

ABSTRACT OF DISCUSSION

DR. W. B. DORSETT, St. Louis: The question is how are we going to remedy this matter of incompetent work in hospitals. In the Deaconess Hospital in St. Louis, after I was made a member of the staff, as I went into the room adjoining the operating-room to get an instrument, a sister came running toward me and said, "Come into the operating-room, quick." I went into the operating-room and looked over the operator's shoulder. He had opened the abdomen to find a cyst. The blood was flowing freely and he was staunching it out with a towel; strychnin was being injected into the woman's arm. I said to him, "What have you here?" He said, "A fibroid tumor." I said, "My dear man, this is the uterus. Why don't you stop that hemorrhage? You are not going to get a fibroid tumor." He had cut the uterine artery and did not know the difference. He had attempted to get a cyst. I grabbed the forceps, stopped the hemorrhage and finally got the towel out; curiously enough that woman recovered. Now, here is where the harm is. The patient went through a long siege of convalescence and finally recovered; the operator was supposed to be a great man because he had saved the patient's life when she was so ill. The result was that four patients were taken to that hospital for operation by him and four women lost their lives. What stand are we to take? Unfortunately, I am a member of a committee in our state organization to protect the profession and I often have to go into court and help to get such men as this out of trouble. Many of these incompetent men go through all right because they are defended by the state medical association. The duty of this

Section is to go into this matter of hospital management as well as other subjects, the staff, etc., but especially the management of hospitals so that hospitals may be in such a position that the staff may formulate rules and will have to take a stand against malpractice cases and the terrible things which go on in the hospitals all over the country.

DR. R. R. HUGGINS, Pittsburgh: It seems a strange thing that members of hospital staffs, who are most familiar with the ability of men who attempt surgical or special work without the proper qualifications, are not strong enough in themselves to oppose these men, and keep them out of the hospitals. We do not seem to appreciate that in not opposing them we become parties to malpractice. A well-organized staff, composed of men not afraid to express their opinions, will do away with this complication in hospital work.

DR. A. G. BARRETT, Baltimore: I could relate quite a number of instances in which incompetent men were allowed to operate in hospitals. One very important one occurred in our city. A practitioner of medicine, a man without surgical training, was allowed all privileges in a hospital. He attempted all sorts of operating; necessarily the results were bad. Another question of importance is the man with ability who will operate at any time without proper diagnosis, regardless of anything but the fee.

I endorse the suggestion of advanced qualification for physicians who wish to operate and better control by hospital boards.

DR. L. H. TAYLOR, Wilkes-Barre, Pa.: Very often the members of the staff cannot choose their associates. I belong to a hospital in which, fortunately, we have the opportunity very largely of choosing our associates. In our state, a great many hospitals receive state appropriations, although they are not entirely state hospitals. At the last meeting of our state legislature, a bill was passed allowing any patient in a hospital receiving state aid to choose his own physician. That bill passed both branches of the legislature and, except for influence that was brought to the governor to induce him to veto that bill, it would have became a law; if it had passed, the management of the hospital could not prevent any physician from using the operating-room or wards for his patients, whether he were qualified or not. I firmly believe that an effort will be made to pass another law of this kind at the next legislature.

DR. H. M. HURD, Baltimore: Some months ago, I learned that on the medical staff of a hospital in one of our neighboring cities 250 physicians had the right to bring patients to the hospital and to operate. I do not call that a proper organization of a hospital. I believe that medical men throughout the country are justified in saying that they will

not be connected with a hospital in which there can be no standard of medical and surgical work. There are hospitals controlled by religious organizations in which medical men have no voice whatever as to who shall be connected with the surgical staff. As medical men we have a right to say that no hospital is a proper hospital unless medical ideas govern in its management. As members of the staff we have a right to unite in saying that we must be consulted when appointments are made; and if persons are appointed on the staff with whom we do not care to associate, let us resign. The difficulty is that many persons are so anxious to be connected with hospitals that they are willing to accept positions even under embarrassing circumstances. Let us set a standard and say we will not be connected with a hospital unless we have a standardization of medical and surgical work from start to finish.

DR. GARRY D. HOUGH, New Bedford, Mass.: Some years ago, Dr. Dudley Allen, then president of the American Surgical Association, in his presidential address, suggested that the American Surgical Association establish what might be called a licentiate board, that this board examine any physician who should make application and, if found qualified to practice surgery, give him a certificate to that effect. Is not that a possible solution of the problem now up for discussion? If hospital trustees will say that they will not permit a surgeon to practice in their hospital until he gets such a license, it seems to me that a large part of the difficulty can be done away with. Most hospitals in smaller communities do not feel that they can take a stand of this kind for they say such a man must be allowed to practice in our hospital because every man has some friends and the hospital management does not think it wise to get any people of the community down on them. But, if such a licentiateship were established by the American Surgical Association they can say: no license, no practice.

DR. P. E. TRUESDALE, Fall River, Mass.: This problem must be approached fearlessly and yet tactfully. There are very few hospitals in the position of the Michael Reese Hospital, for instance. There the chief executive has complete control. He can promptly discover the tyro and eliminate him. The religious hospitals are in charge of the sisters, and many of them are open to the profession at large. Those in charge must be convinced that a surgical death from the hands of an amateur, who has no moral right to operate, is a crime for which the burden of responsibility rests on the hospital management. To be effective this matter should be treated by a diplomatic relationship of committees from this society with all hospital executives.

DR. HARVEY SMITH, Harrisburg, Pa.: What we want is personal education, that is, each individual man has to qualify

himself for his work. I do not think this can be settled by hospital management, but must be settled with ourselves and each man must qualify himself to do his work efficiently.

DR. EDWARD JACKSON, Denver: At the last session of the Colorado legislature there was introduced, at the request of an influential constituent—not at the suggestion of the medical profession—a bill to require the state board of medical examiners to establish examinations in surgical work, and providing that no one could practice surgery in that state who did not pass such examination. Outside of our profession there was beginning to be some appreciation of this difficulty, of men not properly prepared for the work being permitted to operate in the hospitals. I was impressed with the suggestion of the license by a committee of the American Surgical Association. It seems to me that some recognized general scientific body could do a great deal of good by establishing general regulations and a general board of examiners. It cannot be done in a single city or community, because of apparent discrimination against this and that individual, who has friends to be considered.

DR. A. J. OCHSNER, Chicago: The question is the question of development. What we will have in ten years from now would have been absolutely out of the question ten years ago because at that time the degree of qualification which must be taken in ten years from now would have been impossible. We must remember that we are in a condition of development at the present time. There are many cities of considerable size in this country that do not have a single surgeon who has served an apprenticeship. This system of having served an apprenticeship was a thing unknown twenty years ago, and was almost unheard of in this country, while in Europe it had been in practice for a long period of years. The system Dr. Hough suggested is an English system. In Germany the surgeon could not receive an appointment in a village or city hospital unless he had served an apprenticeship. Dr. Murphy's suggestion respecting training for at least five years is another thing that will settle this question. A man may come to your town and go into your hospital without any special training, but if he makes good and has the other qualities necessary he will afterward do that work well; in the meantime, the very serious crimes that are committed by absolutely ignorant men must be prevented by the men who have force and character. If I am called in consultation with one of these men, for the sake of encouraging operation by these incompetent men, I tell them they have no right to commit murder. For the sake of keeping his consultation business, many physicians flatter the incompetent and tell him he is competent to operate as well as anybody. One who does this is just as much to blame as the operator. It must be explained to all who allow such work that they will be the losers and that their hospitals will not have any standing.

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